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The Development of a Teacher-Rating Measure of Positive Behavior

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by

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ABSTRACT

Positive Behavior Interventions and Supports (PBIS) is a systems-level prevention model for problem behavior in K-12 schools. As the number of schools implementing PBIS continues to increase, so does the number of evaluations of its fidelity and effectiveness. After summarizing the test construction, purpose and function, and psychometric properties of commonly used measures in PBIS, the current study examines the development of a measure of positive behavior that can be used to evaluate outcomes of PBIS implementation. Research questions focus on (a) themes of positive behavior, (b) internal consistency of the measure, (c) correlation and reliability over time, and (d) the analysis of the relationship between fidelity of implementation and levels of positive behavior. Results indicate that six themes of positive behavior could be extracted. The measure was found to have acceptable internal consistency and test-retest reliability. Few statistically significant relationships could be found between levels of implementations and rates of positive behavior.

Keywords: PBIS, evaluations, fidelity, outcomes, measures, positive behavior

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CHAPTER1 - INTRODUCTION

Numerous measures exist to examine the fidelity of implementation and the outcomes of Positive Behavior Interventions and Supports (PBIS). These existing tools assess a wide variety of constructs. Several of these measures have proven to be valid and reliable in the assessment of PBIS. Although some measures offer promising psychometrics, others have little to no evidence. Therefore, schools may be using measures to guide PBIS implementation that have not yet been validated for such usage. Future research can aid in solving this issue by conducting psychometric evaluations of such measures. Further, conducting psychometric evaluations prior to releasing new measures will prevent this issue from occurring in the future.

Although decreases in problematic behavior have been noted in the PBIS research, changes in positive behavior have been overlooked, despite the fact that PBIS involves teaching and reinforcing positive behavior expectations. Positive social behaviors should include behaviors that are viewed as acceptable, appropriate, and important by school staff. In addition, these behaviors should be easily observable and fit within a theoretical framework of the concept of positive behavior. The evaluation of positive behaviors as an outcome is an obvious fit for PBIS, as it aligns with the very basis of the framework. If PBIS teaches and rewards positive behaviors, it would be reasonable to address these behaviors as an outcome.

The overall purpose of the study was to develop a psychometrically sound questionnaire that measures positive behaviors in K-12 schools. The study addressed four research questions.

Research Questions

1. Can the findings from the present survey confirm themes of positive student behavior in schools that have been developed based on previous findings?
2. Can the Positive Student Behavior Scale (PSBS) be condensed to contain fewer items, but still accurately address levels of positive behavior?
3. Does a significant correlation exist across multiple ratings over of the PSBS over a short period of time?
4. Do schools with high level of PBIS implementation fidelity report higher levels of positive behavior on the PSBS?

CHAPTER 2-LITERATURE REVIEW

Overview of PBIS

Positive Behavior Interventions and Supports (PBIS) is described as a preventative, proactive, evidence-based, outcomes-focused, continuous and multi-systemic intervention in schools (Scott & Barrett, 2004; Sugai & Horner, 2002; Sugai & Horner, 2006). PBIS is preventative and universal in nature, with outcomes focused on changing problem behavior while achieving and sustaining positive social and learning changes (Office of Special Education Programs [OSEP] Center on Positive Behavior Supports, 2009; Sugai & Horner, 2002; Sugai & Horner, 2006). According to Carr et al. (2002), the emergence of PBIS can be traced back to three philosophical foundations. First, and perhaps most notably, it is rooted in applied behavior analysis, which is reflected in the conceptual framework and assessment and intervention strategies of PBIS. Baer, Wolf, & Risley (1968) were the first to discuss the multiple dimensions of applied behavior analysis, stating that socially important issues be addressed using applied, behavioral, analytic, technological, conceptual, effective, and generality principles. Aside from incorporating these principles, PBIS also utilizes other applied behavioral analysis elements including a three-tier contingency, shaping, fading, prompting, and reinforcement (Carr et al.,2002; Dunlap, Carr, Horner, Zarcone, & Schwartz, 2008). Second, the normalization/ inclusion movement largely shaped PBIS (Carr et al., 2002). The movement called for the integration of students with disabilities into the general education classroom and equal opportunities for all students (normalization). As a result, specialized school supports were integrated in general education (inclusion). Finally, PBIS is rooted in the person-centered values, where

a team-based approach is used to consider an individual's needs and develop intervention strategies accordingly (Anderson & Freeman, 2000; Carr et al.).

At the primary prevention level, PBIS is implemented with all students across all school-related settings (Horner et al., 2009; Sugai & Horner, 2002; Sugai & Horner, 2006). Primary prevention is managed by a data-based decision making team, which oversees the following critical features: (a) three to five positively stated expectations/rules, (b) procedures for teaching and modeling behavior expectations, (c) procedures for rewarding and/or acknowledging appropriate behaviors, (d) procedures for discouraging inappropriate behaviors, (e) ongoing assessment and problem analysis, and (f) plans for evaluation of outcomes and implementation using data-based decision-making (George, Kincaid, & Polland-Sage, 2009; Sugai & Horner, 2002).

In order to accommodate students that do not respond to universal supports, PBIS also includes secondary and tertiary tiers of support (Horner, et al., 2009; Sugai & Horner, 2002; Sugai & Horner, 2006). Interventions at the secondary prevention-level are implemented with the small percentage of students that do not respond to primary prevention (usually 10%-15%). At this tier, interventions are linked to the universal level but typically include more adult involvement and increased monitoring. At the tertiary level, PBIS is highly individualized and intensive and is targeted at students that were unresponsive at the first two levels. Across all levels of implementation, the PBIS framework consists of four critical elements: evidence-based practice, data-based decision making, systems-level implementation, and outcomes, which are described below.

Evidence-Based Practice

PBIS is rooted in applied behavior analysis, with an emphasis on the interaction between an individual's behavior and the surrounding environment (Carr et al., 2002; Dunlap et al., 2008). In order to maximize the effectiveness of the intervention, practices that are research-validated are used. Sugai and Horner (2006) recommend the use of practices that are effective, efficient, relevant, and durable.

Historically, school discipline policies have been largely "reactive", meaning that schools do not respond to behavior concerns until after a school rule has been broken. However, research indicates that punishment is ineffective when used in a reactive environment and can often lead to escalations in problematic behaviors (Mayer, 1995; Shores et al., 1993). Thus, alternative approaches and practices began to be explored. "Over the past 15 years, greater attention has been directed toward approaches that increase the availability, adoption, and sustained use of validated practices and applying what we know about the science of human behavior to improve the effectiveness and efficiency of school systems and organizations" (Sugai & Horner, 2006, p. 246). As a result, there has been a push for schools to adopt proactive approaches to discipline problems. In 1997, the Individuals with Disabilities Education Act (IDEA) defined the terms "positive behavior supports" and "positive behavioral interventions and supports". Similarly, the US Department of Health and Human Services (2001) called for priorities to be given to efforts focusing on primary prevention, where positive climates can be established and maintained.

Data-Based Decision Making

The selection of new practices should be based on data. In a PBIS framework, data is also used to guide decisions at multiple levels, including school-wide, classrooms/grades, non-classroom settings, and with individual students (Sugai & Horner, 2002). PBIS teams can use the Team Initiated Problem Solving process (TIPS) where the collection and use of data allows for status review and problem identification, development of hypotheses, selection of solutions, implementation, and evaluation (Newton, Horner, Todd, Algozzine, & Algozzine, 2012). The use of TIPS allows for early identification and regular assessment of student behaviors. Perhaps most importantly, data is also used to evaluate the outcomes and implementation of PBIS. In order for this to be done effectively and efficiently, teams should meet regularly to review data that has been collected across multiple formats. The data reviewed and used include data on fidelity of implementation and outcomes (e.g., behavior and achievement).

Systems Perspective

Support at the systems level is imperative for the effective and durable implementation of PBIS (OSEP, 2009). PBIS is implemented across all systems in a school including classroom systems, non-classroom systems (e.g., halls, lunchroom), and targeted/individual student systems (e.g., individualized support plans). The cornerstone of the systems approach is the development of a leadership team that will guide and organize implementation (Sugai & Horner, 2002; Sugai & Horner, 2006). According to Sugai and Horner, the team "coordinates local coaching, training, and evaluation activities, and establishes sustainable political, visibility, and funding supports" (2006, p. 250). The team

should be representative of staff in the school in order to ensure that all voices are heard when planning for PBIS activities. It is also imperative for an administrator to regularly attend the team meetings in order to ensure that the school and its resources are committed to PBIS. Another major task of the team is to develop an action plan used to guide implementation. It is also the responsibility of the leadership team to establish an evaluation process, where outcome data can be used to guide decisions.

Outcomes

In order for schools to effectively evaluate PBIS, they need to carefully consider, acknowledge, and define outcomes that are measurable and achievable (Sugai & Horner, 2002; Sugai & Horner, 2006). All stakeholders should endorse these outcomes. According to OSEP (2004), "Valued outcomes include increases in quality of life as defined by a school's and/or individual student's unique preferences and needs and by positive lifestyle changes that increase social belonging" (p. 10). Recent research has focused on outcomes related to academic achievement, social skills, decreases in problematic behaviors, attendance and tardiness, rates of expulsions and suspensions, and office discipline referrals. It is notable, however, that research has not addressed improvements in positive social behavior as an outcome in PBIS.

Assessment Measures and Evaluation of PBIS

There are multiple levels at which PBIS is evaluated. The first type, *research-based evaluation*, serves the purpose of disseminating information about PBIS implementation and effects to the broader academic and scientific community. There have been numerous single-subject studies (see Solomon, Kline, Hintze, Cressey, & Peller, 2012 for a meta-

analysis) and group design studies, including randomized control trials (Bradshaw, Mitchell, and Leaf, 2010; Horner et al., 2009), that have demonstrated the effectiveness of PBIS using scientific-standards of research. The second type of evaluation, *local implementation evaluation*, is conducted to improve locally-implemented PBIS in a school. This process is managed by a team in the school and is part of a continuous-improvement process. The third type, *regional systems-based evaluation*, is similar to local implementation evaluation but serves the purpose of supporting and improving implementation across multiple school that is coordinated at a district, regional, or state level (see Simonsen et al., 2012, for an example of Illinois' evaluation of its efforts to coordinate PBIS).

The three levels of PBIS evaluation deal with two primary categories of data: (a) fidelity of implementation and (b) outcomes. The following section reviews the specific types of data used in evaluation of PBIS.

Assessment of Fidelity of Implementation

Several assessment tools exist to measure the fidelity of implementation of PBIS. The Team Implementation Checklist, Self Assessment Survey, School-wide Evaluation Tool, School Safety Survey, and School-wide Benchmarks of Quality have been widely regarded as the most useful tools available (Childs, Kincaid, & Goerge, 2010; OSEP, 2009) and are available for access and use on www.pbisassessment.org. These tools, in addition to the recently developed Implementation Phases Inventory, will be described below.

School-wide Evaluation Tool. The School-wide Evaluation Tool (SET) is a measure used to assess the degree to which schools are implementing PBIS with fidelity (Sugai,

Lewis-Palmer, Todd, & Horner, 2001). The SET is designed to be used in conjunction with other measures to establish multiple perspectives of implementation. Results of the SET are used to assess features of PBIS that are in place, establish annual goals, evaluate ongoing implementation, revise procedures as needed, and draw comparisons across years of implementation. A trained outside observer visits the school site to annually assess implementation across 28 items addressing seven key areas of PBIS (expectations defined, expectations taught to all students, procedures for rewarding appropriate behaviors, systems for responding to behavior violations, procedures for data-collection and decision making, management systems, and district support). Data are collected through the use of direct observation, review of permanent products, and interviews with administration, teachers, staff, team members, and students. Evaluator site visits for completing the SET generally take about two hours to complete. Each of the 28 items is given a score between 0 and 2. Summary scores are calculated across each of the seven areas (subscales) and schools are given a total summary score.

In contrast to many of the other implementation measures of PBIS, the SET has been described primarily as a research tool. There are a few states that use it systematically for their regional systems-based evaluation (see McIntosh, Filter, Ryan, Bennet, & Sugai [2010] for an example of Minnesota's efforts to use SET data statewide) but it is sufficiently time and resource-intensive as to be prohibitive for many large scale evaluations. The SET has been used as an evaluation tool in several published evaluations of PBIS (e.g., Horner et al., 2009; Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008).

The SET has strong psychometric properties. Horner et al. (2004) found that the SET had acceptable internal consistency, with an overall alpha of .96. Other reliability coefficients were also high, with average test-retest found to be .97, with an interobserver agreement of 99%. Measures of validity compared the SET to the Effective Behavior Support Survey (EBS; since renamed as the Self-Assessment Survey), which is a fidelity of implementation survey completed by all staff in a school. Construct validity between the two measures was found to be positively correlated at Pearson r=.75 ($p \leq .01$). Intercorrelations between the seven subtests of the SET were found to be high to moderately high (with a range of r=.44 to r=.81 and a median of r=.65). A paired t-test revealed that the SET was sensitive to change.

A recent study by Vincent, Spaulding, and Tobin (2010) reexamined the psychometric properties of the SET. Internal consistency data resembled that of Horner et al., (2004), with an overall reliability coefficients were found to be α=.850 for elementary schools , α=.854 for middle schools, and α=.899 for high schools (it should be noted that the original study included only elementary and middle schools). Deviations were noted in high schools on the subscales of Behavioral Expectations Taught and Consistent Reward Systems. When compared to the Team Implementation Checklist (Sugai, Horner, & Lewis-Palmer, 2002), a self-assessment of similar PBIS implementation domains, moderate to high correlations were found.

Although the SET is widely used, further evaluation of its psychometric properties is needed. In the original study, Horner et al. (2004) used only elementary and middle schools. Further, a limited number of schools were used in several of the analyses (e.g.,

eight schools were used in the analysis of test-retest reliability). Other concerns regarding implementation have been raised. Vincent et al. acknowledged the variability in training that may exist (2010). Additionally, documentation is lacking regarding the extent to which procedures follow those of the training manual. Finally, as the number of schools implementing PBIS drastically increases, the likelihood of conducting on-site evaluations at each school may become increasingly more difficult due to the time intensity of the measure (Cohen, Kincaid, & Childs, 2007).

Team Implementation Checklist. The Team Implementation Checklist (TIC) is a self-assessment measure designed to be completed by the leadership team on a quarterly basis (Sugai et al., 2002). The TIC is regarded as a quick and cost-effective tool for guiding school-wide decision-making. It is not generally used in research-quality outcome studies of PBIS. The TIC contains a total of 17 items that are ranked using a three point scale (Achieved, In Progress, or Not Yet) (Barrett et al., 2008; Bradshaw, Debnam, Koth, & Leaf, 2008; Sugai et al., 2002). Although the TIC is widely used, little research exists on its psychometric properties. Analysis of a modified version of the TIC, the Maryland Team Implementation Checklist, revealed a high internal consistency for the measure (Cronbach's alpha= .93) (Barrett et al., 2008).

Self Assessment Survey. The Self Assessment Survey (SAS) was originally named the Effective Behavior Supports (EBS) survey. The SAS is a measure used by schools to assess the current implementation of various behavioral supports (Sugai, Horner, &Todd, 2000). The survey is completed annually by school staff and addresses school-wide discipline systems, classroom management, management in non-classroom settings (e.g.

hallways, cafeterias), and targeted systems for individual students. On each of the survey's 18 items, school staff independently evaluate the current status of a school on a three point scale (In Place, Partially In Place, and Not In Place) and the priority for improvement (High, Medium, and Low). Results of the SAS are analyzed and used by the school for decision-making and action plan development.

Saffran (2006), in a paper describing how the SAS is used by schools during the action-planning process, reported in internal reliability alpha coefficient of .85 for the current status index and .96 for the improvement priority index. Subscale reliabilities for the current status index ranged from .60 to .75 and subscale reliabilities for the priority status index range from .81 to .92. This was based on responses from staff in two elementary schools and one middle school in a rural Midwestern city.

When compared to similar measures such as the SET, two main differences are noted (Horner et al., 2004). First, the SAS relies on reports of local staff. Second, the SAS examines several different features than the SET, including family involvement and continued training. However, since it is a self-evaluation, it is not regarded as being as valid as the SET, which is an external evaluation.

The School-wide Benchmarks of Quality. The School-wide Benchmarks of Quality (BoQ) is a self-report tool designed to allow schools to assess their own strengths and weaknesses of implementation (Kincaid, Childs, & George, 2005). Development of the measure included generation of items based off the Florida PBS Training Manual, expert ratings on items, cognitive interviewing, and a pilot study. The scale contains 53 items addressing 10 key domains of PBIS implementation (PBS team, Faculty Commitment,

Effective Discipline Procedures, Data Entry, Expectations and Rules, Reward System, Lesson Plans, Implementation Plans, Crisis Plans, and Evaluation). The BoQ consists of three documents; coaches complete the Coach Scoring Form while team members complete the Team Member Rating Form. Using information from these two forms, the coach then completes the Team Summary Report, while noting and discussing any discrepancies with team members. Items are rated using a three point scale (not in place, needs improvement, or in place), with a total possible score of 100. A cutoff score of 70 is used, with schools scoring above this being considered "high implementers" and those below "low implementers".

Research indicates that the BoQ has strong psychometric properties (Cohen et al., 2007). Internal consistency for the measure was high, with an overall Cronbach's alpha of 0.96. Test-retest was found to be 0.94 ($p< 0.01$), with 28 coaches participating and one week between administrations. A test of inter-rater reliability revealed a correlation of 0.87 ($p<.01$). The relationship between the BoQ and the SET was examined in order assess convergent validity. A moderate overall correlation of 0.51 ($p<.05$) was found between the two measures, indicating the measurement of similar constructs with differing specificities. According to authors, the BoQ is better able than the SET to discriminate among schools that are implementing PBIS with high fidelity. Therefore, the BoQ is often regarded as a more efficient and potentially more sensitive alternative to the more traditional SET for research-level evaluations.

Implementation Phases Inventory. The Implementation Phases Inventory (IPI) was developed by the PBIS Maryland Statewide Initiative to document and categorize a

school's phase of PBIS implementation (Bradshaw et al., 2009). The measure was developed over the course of six meetings, where existing fidelity measures (e.g., SET, TIC) were reviewed and a list of key features was established. These key features were then categorized into four successive phases to make up the IPI: (a) preparation, (b) initiation, (c) implementation, and (d) maintenance. The IPI contains 44 items that the PBIS coach or other facilitator rate as 0 (not in place), 1 (partial), or 2 (full implementation). The IPI is designed to be completed twice a year. In order to advance to the next stage of implementation, a school must receive a score of 80 on the previous phase. Overall, scores on the IPI range from 0% to 100%.

One study has examined the psychometric properties of the IPI. Results indicated a strong internal consistency with a Cronbach's alpha of .94 (Bradshaw et al., 2009). Alphas for the four subscales ranged from .65 to .91. Thirty-three PBIS coaches (40 schools) were used in the evaluation of test-retest reliability which was found to be $r(40)=.80$, $p \leq .01$ (with a three week lapse between administrations). Finally, inter-rater reliability was examined using data from 33 PBIS coaches (participants in the test-retest study) and 33 team leaders. Results indicated the IPI has moderate inter-rater reliability, $r(34)=.61$, $p \leq .01$.

School Safety Survey. The School Safety Survey (SSS) provides a basic index of school safety and is used to guide training and support needs regarding school safety and violence prevention (Sprague, Colvin, & Irvin, 1996). The SSS contains 33 items and is divided into three sections, Assessment of Risk Factors for School Safety and Violence (17 items), Assessment of Response Plans for School Safety and Violence (16 items), and

Comments on School Safety and Violence. Each item is ranked using a five point scale (not at all, minimally, moderately, extensively, don't know). The SSS produces two scores, a Risk Factor score and a Protective Factor score, with higher scores indicating higher levels of these areas. The SSS is completed by a minimum of five school personnel which must minimally include at least one administrator, one custodial worker, one supervisory/classified staff member, one certified member, and one office staff member. Little data exists on the survey's psychometric properties, although an internal consistency of .90 has been reported (as cited in Horner et al., 2009). Although the SSS is available for schools to use on the website www.pbisassessment.org, a site for fidelity of implementation measures of PBIS, it has also been used as an outcome measure in large scale evaluations of PBIS (see Horner et al., 2009).

Evaluation of Outcomes

There are a number of valued outcomes of PBIS. The most commonly reported outcomes relate to student behavior. However, it can be argued that the primary goal of schools is to maximize learning outcomes. Therefore, it is also important to measure the effect of PBIS on academic achievement. It is not assumed that the relationship between the social behavior changes inherent in PBIS and the improvement in academic achievement would be direct. Rather, a reduction in time spent managing discipline problems in a school is believed to lead to an increase in instructional time across a school, which in turn leads to more academic achievement (Lassen, Steele, & Sailor, 2006).

Regarding behavior outcomes, most outcome measures in PBIS deal with decreases in problem behavior along with corresponding decreases in things like suspension and

expulsion. It is notable that there exists no current measure of positive behavior in PBIS. A number of the behavior outcomes measures most commonly cited in PBIS literature will be reviewed in the following section.

Office Discipline Referrals. In 2000, Sugai, Sprague, Horner, and Walker defined Office Discipline Referrals (ODRs) as "an event in which (a) a student engaged in a behavior that violated a rule/social norm in the school, (b) a problem behavior was observed by a member of the school staff, and (c) the event resulted in a consequence delivered by administrative staff who produced a permanent (written) product defining the whole event" (p. 96). ODRs are a practical outcome measure in schools as they are easily documented and maintained by school staff. When an ODR occurs, data on the student(s), referring teacher, time of day, location, and nature of the problem can also recorded (Irvin et al., 2006). ODRs are widely used by school staff in order to identify patterns in problematic behavior, monitoring individual student behavior, and as an outcome measure for school-wide behavioral interventions as they assess the school's overall behavioral climate (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004).

When a three-tier response-to-intervention framework is implemented along with PBIS, schools often utilize cutoff scores in order to identify students in need of additional supports (Hawken & Horner, 2003). Two to five office discipline referrals is a common cutoff for tier two services, with six or more referrals typically indicating tier three services. In an extensive review of ODR data, McIntosh, Frank, and Spaulding (2010) identified trajectories and specific behaviors that predicted individual students' tiers of services. In the analysis of trajectories, no sharp rise in mean ODR rates across the school

year was observed. One ODR became an adequate predictor of tier two services at the end of December (however it should be noted that little interpretation can be made off of a single event). The presence of two ODRs became a highly accurate predictor of tier three services at the end of October. In addition to ODR trajectories, 10 behaviors were also identified as significant predictors of two or more ODRs, with the most significant predictor being the display of gang signs. Finally, a predictor of two or more ODRs by October and a reported act of physical aggression or disrespect were identified as the highest combined predictor of tier three membership.

In order to assess the validity of ODRs for PBIS and other school-wide behavioral interventions, Irvin et al. (2004), utilized Messick's Unified Approach to Construct Validity. Messick's framework is applicable for measures used in educational and psychological assessments. Consistent with Messick's approach, Irvin et al investigated four areas of ODRs (a) Evidence for interpreting the meanings of ODRs, (b) Evidence for the relevance, use, and utility of ODRs, (c) Foundations for value interpretations of ODR measures, and (d) Consequences of using school-wide ODR measures.

The analysis revealed ODRs were correlated with behavior rates, with high ODR rates persisting in schools where school-wide behavior support interventions are not implemented. Thus, ODRs were found to be accurate indicators of school-wide behavior climates (Irvin et al., 2004). Second, ODRs were found to be sensitive to intervention effects and an effective outcome measure for behavior supports. Third, correlations were found between staff perceptions of behavior change in schools and ODR rates. Further, school staff reported high rates of social validity in ODR usage. Finally, ODRs were found to be

effective for guiding data-based decision making and school-wide intervention planning. ODRs were found to be predictive of other negative behaviors in school such as drug use, unexcused absences, conduct problems, defiance of authority, disrespect, and violent/rebellious behaviors.

Nelson, Benner, Reid, Epstein, and Currin (2002) investigated the convergent validity of ODRs with the Teacher Report Form (TRF), a scale examining the internalizing and externalizing behaviors of students identified as at-risk for behavior problems. Results indicated that ODRs failed to identify a large number of students in need of intensive interventions. This may be due to the fact that in some cases ODRS may underrepresent problem behaviors and internalizing behaviors are often not referred to the office (Irvin et al., 2004).

School-wide Information System for ODRs. Sprague, Sugai, Horner, & Walker (1999) reported that many schools were not recording and tracking ODR data systematically and were even discarding data at the end of each school year. Therefore, many schools were not utilizing ODR data. As a result, it was determined that a functional system for ODR data collection and analysis was needed. The School-wide Information System (SWIS) is a widely-used web-based data system used to enter, organize, manage, and report discipline data through electronic records. Administrative support, staff buy-in, levels of behavior violation, consistent consequences for violations, and active teaching of behavior expectations are key points in SWIS use. SWIS was created to improve ODR referrals across two main areas. First, SWIS was developed in an effort to increase the effectiveness of reporting ORD data by the creation of a comprehensive, standardized

protocol (May et al., 2002). Standardized reports summarize ODR rates at the school, classroom, and individual levels. Information is obtained on times of day, settings, days of the week/month, and problem behavior.

Secondly, SWIS was created to be a more efficient method of reporting, by minimizing the efforts in reporting, managing, and using ODR data (May et al., 2002). A SWIS facilitator provides a school with technical support and direct training in computer software and data-based decision making. Data from SWIS reports can be used to improve school discipline practices, intervention planning and monitoring of individual students, reporting discipline data at the districts, state, or school level, and in the interpretation of data across years or in comparison to schools within the state/district (Irvin et al., 2006).

As a result of PBIS implementation, several studies have indicated a reduction in ODR rates reported through SWIS (Childs et al., 2010; Lassen et al., 2006). Childs found that one year of training in PBIS lead to a 33% decrease in ODR rates (2010). The mean difference in ODRs in baseline and year one was found to be 45.01 per 100 students (SD=101.3, p=.001). Lassen et al., found that the number of ODRs per student was significantly reduced each year across three years of implementation. In a randomized, waitlist controlled study, Horner et al. (2009), lower ODR rates were noted in schools that received training in PBIS.

Irvin et al. (2006), examined participation and perceptions of SWIS utility. Results indicated that most schools enter ODR data at least on a weekly basis, with entry time ranging from 10 to 60 minutes. Respondents also reported that SWIS requires relatively low effort to use and works “adequately” to “exceptionally”. Finally, the majority of

respondents rated SWIS as increasing the effectiveness and efficiency of decision making, with data being accessed at a weekly to monthly basis in most schools. Using Messick's framework, Irvin et al., reported that SWIS met basic validity criteria for educational assessment.

In an examination of the validity of ODRs, Pas, Bradshaw, and Mitchell (2011) compared rates of ODRs as reported through SWIS to teacher reports of students ODR rates. Results indicated that the two sources were significantly to moderately correlated (r=.57, p<.01). In 94.1% of cases, teachers were in agreement with SWIS data regarding students that had medium/high referrals (two or more ODRs). Cohen's kappa was also calculated and found to be .57 (p<.01), revealing a moderate agreement while accounting for chance. In addition, each source of data was compared to the Teacher Observation of Classroom Adaptation-Checklist (TOCA-A), a validated assessment of student classroom behaviors in the areas of disruptive behaviors, concentration problems, and prosocial behaviors. All correlations were found to be moderate and significant at p<. 01, with rates of .34 for disruptive behaviors, .27 for concentration problems, and -.29 for prosocial behaviors for teacher reports. In comparison to SWIS data, correlations were found to be r=.38 for disruptive behaviors, .29 for concentration problems, and -.31 for prosocial behaviors.

Suspension Rates. In addition to reporting and monitoring office discipline referrals, many schools implementing PBIS also track suspension rates as an outcome. Research indicates that lower suspension rates are associated with PBIS implementation (Barrett et al., 2008; Childs et al., 2010; Lassen et al., 2006). In a repeated measures

analysis, Barrett et al. (2008) found a significant reduction in suspension rates following one year of training in PBIS. Lassen et al. (2006), investigated suspension rates across baseline and three years of PBIS implementation. Results indicated that suspension rates significantly decreased with each year of implementation. Childs et al. (2010), examined whether implementation of PBIS lead to a decrease in the number of days of in-school (ISS) and out-of-school suspension (OSS). Results indicated a 16% average reduction in the number of days of ISS following one year of PBIS implementation. However, it was also found that days of OSS increased by 2% following one year of initial implementation. A t-test revealed that there was no statistically significant difference in rates between baseline and year one of implementation.

Academic Achievement. PBIS was intended to improve the overall effectiveness of schools as a learning environment by increasing the amount of instruction time in the classroom (Horner et al., 2009). In addition, PBIS intends to improve the level of student academic engagement during classroom instruction. Several studies have investigated the relationship between PBIS and changes in academic performance. In order to accomplish this, student performance on standardized achievement test is often assessed.

Horner et al. (2009), conducted a randomized, wait-list controlled trial to assess the impact of PBIS on academic achievement, where schools in the treatment group received PBIS training during year one and control/delay schools received training one year later (year two). The percentage of third graders meeting state reading standards was used a measure. A statistically significant difference in percentages from year one to year two in the treatment group was found. A significant difference was also found between the two

groups following year two. Similarly, Childs et al. (2010), found that in comparison to schools not implementing PBIS, schools implementing the intervention in Florida had higher percentages of performance at grade level on the state's comprehensive reading assessment.

Sadler and Sugai (2009) noted "dramatic" changes in kindergarten students meeting DIBELS benchmarks following the implementation of PBIS. A relationship between behavior and academic performance was also found, where students with fewer discipline referrals were likely to score higher on reading assessments. For example, fifth graders that received one or fewer ODRs scored 8 points higher on DIBELS measures. Lassen et al. (2006) also noted a connection between behavior and academic achievement, stating that disruptive behavior is among several factors that can account for students performance on such measures, as it typically results in a loss in instruction time which can compromise student learning. According to Lassen et al., interventions that recover and maximize instruction time and decrease disruptive behaviors should lead to an increase in student academic performance (2006). Results from the study indicated that standardized scores in mathematics increased significantly over three years of PBIS implementation. Scores in reading decreased in the initial year of implementation then increased from year one to three. However, these increases were not significant.

Teacher Perception of Behavior Change. Tobin, Lewis-Palmer, and Sugai (2002) investigated whether teacher perceptions of behavior change over a two year period were consistent with actual rates. Over the two years, teachers were asked whether they perceived that problematic behavior was increasing, remaining steady, or decreasing.

Teacher responses were then compared to ODR rates. Results indicated that in four out of the five schools, teacher perceptions of behavior change were consistent with actual changes in ODR rates across the two years.

Improved Social Behavior. Core to PBIS implementation is the prevention of problem behaviors through the teaching and encouragement of positive social behaviors. However, these increases in positive social behavior are not often measured directly. In recent research, improved social behavior is most often measured through the use of ODR data (Sadler & Sugai et al., 2009). For example, Sadler and Horner compared ODR rates for districts implementing PBIS to those not implementing PBIS. Although lower ODR rates were found in PBIS schools, there was no evidence that positive social behavior itself increased in these districts, only that problematic behaviors were lower.

The Behavior Outcome Survey (BOS) was developed by the Tri-State Consortium for Positive Behavior Support (TSCPBS) as a measure of behavior change for schools experiencing high rates of problematic behavior (Kincaid, Knoster, Harrower, Shannon, & Bustamante, 2002). The BOS was used to measure a team's rating of observed changes in school-wide behavior problems, with staff indicating changes in frequency (more or less often), severity (more or less severe) and duration (longer or shorter) following PBIS implementation. In addition, the staff reported on student acquisition, frequency, appropriateness, and independence of socially acceptable alternative skills in replacement of problematic behaviors. Results indicated that the majority of staff members observed reductions in problem behavior following PBIS implementation. Eighty-two percent rated behaviors as occurring less frequently, 78% reported less severe behaviors, and 76%

reported decreases in duration. Positive alternative behaviors were rated as occurring *more frequently* by 71% of members, *more appropriately* by 88%, and *more* i*ndependently* by 76% of staff following the implementation of PBIS. Finally, team members reported that overall, they were satisfied with the utility, efficiency, and outcomes of PBIS.

The Problem and Pro-social Student Behavior Scale was developed as a measure of staff perceptions regarding problematic and prosocial behaviors of students (Clonan, Lopez, Davison, & Rymarchyk, 2004). Results indicated that four out of the five items addressing prosocial behavior increased following PBIS implementation. However, none of these increases were statistically significant. Further, the utility of the scale is questionable as it is not easily accessible to schools.

Positive Behavior Construct

The construct of positive behavior, which is a valued outcome of PBIS implementation in schools, lacks a clear and concise definition in literature. Hearron and Hildebrand (2006), for their purposes, have provided a definition of positive behavior as "those which help children move along toward the goal of becoming well adjusted, fully functioning adults" (p. 1). They go on to state, "positive behavior is not, therefore, the same thing as compliance with adult wishes".

Other definitions of positive social behavior have included, "social competence with peers and adults, compliance to rules and adult direction, and autonomy or self reliance" (Epps, Eun Park, Huston, Ripke, 2003, p. 4). Social competence referred to getting along with others, being liked by others, generosity, thoughtfulness, and being perceptive of the feelings and perspectives held by others. Compliance was described as expanding beyond

conforming and encompassed obedience to rules without requiring constant supervision. Autonomy/self-reliance refers to behavioral independence and ability to not depend on others for unnecessary assistance.

In general, the literature has failed to provide a clear distinction between positive behavior and prosocial behavior despite having established a relatively clear description of prosocial behavior. Kidron and Fleischman (2006) provide that prosocial behaviors are voluntary and are intended to assist, benefit, or help others. Specific examples provided include sharing, comforting, rescuing, and helping. They report that antecedents for prosocial behavior include empathy, moral values, and a sense of personal responsibility. They concluded that prosocial behaviors do not include those that are done as a means of personal goal-attainment. This view is supported by other research as well. Carlo and Randall (2002) determined prosocial behaviors are those conducted under the intention to benefit others.

Several scales exist to measure prosocial behavior. Eisenberg and Fabes (1998) identified four types of prosocial behavior: Altruism, compliant, emotional, and public. Altruism encompassed behaviors that were voluntarily done and lead by motivation for the concern for the needs and/or welfare of another. Compliant prosocial behaviors were described as fulfilling a request to assist another. Emotional prosocial behaviors were characterized as voluntary acts directed towards the assistance of others that were in emotional distress (e.g. an injured individual that is crying). Public prosocial behavior was a term used to describe behaviors as those conducted in front of others/an audience. The motivation behind these acts was the desire to gain the approval and/or respect from

others. Carlo and Randall (2002) expanded on the work of Eisenberg and Fabes, to also include anonymous and dire prosocial behaviors. Anonymous prosocial behavior included those where helping is done without the acknowledgement of the individual providing the help. Dire prosocial behavior included those where help is given in an emergency situation. To measure these behaviors, participants were given specific examples of prosocial behavior in each area and asked to rate the degree to which it described their behaviors.

After a review of the literature, the difference between positive and prosocial behaviors appears to be the motive or intent behind behavior. Research continually indicates that prosocial behaviors are altruistic in nature and are performed in order to benefit another. On the other hand, according to literature, positive behaviors are not performed solely to serve this same function. Rather, behaviors are positive when they contribute to the development or personal growth of an individual. Therefore, literature alludes to the consideration that positive behaviors can be performed in order to benefit others, but this motive is not required in order for a behavior to be considered positive.

Preliminary research by the author that informed the development of the present teacher-rating measure of positive behavior was predicated on the assumption that positive student behaviors in school are the behaviors that adults value to the degree that they are willing to provide intentional reinforcement for the occurrence of these behaviors (Ebsen & Filter, 2013). A series of studies indicated that teachers were more than 50% likely to provide reinforcement for five types of behaviors, which have been named for the acronym, SHUCK: (a) Supporting Other Students in Following the Rules, (b) Helpful, (c)

Using Manners, (d) Cooperating/Sharing, and (e) Kind/Caring. Table 1 includes definitions of each of the SHUCK positive behaviors from (Ebsen & Filter, 2013).

Table 1

Behaviors and Definitions

Behavior	Definition	Examples	Non Examples
Supporting Other Students	Appropriately reminding classmates and peers of the rules or behavior expectations of the school	• Nicely reminding another student to walk in the hallways • Modeling appropriate school behavior for another student • Appropriately reminding a student of the consequences of their behavior • Noticing when other students engage in positive behavior	• Telling on a student that has broken a school rule • Telling another student how to behave based on rules that he or she has created that are not based on school rules
Helpful	Providing task assistance or service to benefit another	• Opening a door for another • Volunteering to pass out papers in a classroom • Tutoring another	• Saying something nice to another • Displaying a positive attitude
Using Manners	Using words or behaviors that are deemed to be socially appropriate	• Saying “please” and “thank you” • Welcoming a visitor into the classroom	• Paying a compliment • Working with students that have no one to work with
Cooperating/ Sharing	Giving materials to or using materials with another person	• Lending another student personal materials, such as a pencil or scissors • Using school property appropriately with another • Relaying ideas and	• Offering to include an individual in their group • Bringing in items for donation

		thoughts in a group setting • Effectively working together towards a common goal	
Kind/Caring	Displaying concern, thought, or positive regard to another	• Paying a compliment • Cheering up a classmate that is feeling sad • Bringing in items for donation • Asking an individual to join their group	• Carrying a heavy item for another • Offering to assist another student who is struggling with an assignment

The present study evaluates the new teacher-rating measure of positive behavior that was based on this preliminary work with these five categories of positive behaviors (i.e., SHUCK).

Purpose of Present Study

The present study aims to expand the literature on the construct and measurement of positive behaviors. More specifically, it extends the preliminary research conducted by the author. In order to do this, a positive behavior measure, the Positive Student Behavior Scale (PSBS), was developed to measure the teacher reports and perceptions of recent positive behavior occurrences within the school setting. The current study addressed four research questions:

1. Can the findings from the present survey confirm themes of positive student behavior in schools that have been developed based on previous findings?
2. Can the PSBS be condensed to contain fewer items, but still accurately address levels of positive behavior?

3. Does a significant correlation exist across multiple ratings over of the PSBS over a short period of time?
4. Do schools with high level of PBIS implementation fidelity report higher levels of positive behavior on the PSBS?

CHAPTER 3-METHODOLOGY

Research Methods

Participants

All participants for the study were recruited during Fall 2012 PBIS trainings in Minnesota. Two cohorts were represented in the sample, one cohort in their first year of PBIS training (cohort 8) and one cohort in their second year of PBIS training (cohort 7). Forty percent of the participants were from cohort 7 (*n*=163), while 60% of the participants were from cohort 8 (*n*=243). All participants were members of their school's PBIS team, with a mean of 4.2 participants per school (standard deviation of 2.6). The number of team members completing the survey ranged from one to 12 per school. A total of 406 participants representing 96 schools completed the initial survey. The sample was comprised of 23% males (*n*=93) and 77% females (*n*=313). Table 2 reveals that the sampling of schools encompassed all grade levels with the majority of respondents working in elementary schools. Table 3 depicts the demographics of the respondents.

Table 2

School Information

School Type	***n***	**Percentage of Sample**
Elementary	52	54%
Middle School	13	14%
High School	10	10%

Combined Type	21	22%

Table 3

Staff Information

Staff	***n***	**Percentage of Sample**
General Education Teacher	187	46%
Special Education Teacher	44	11%
Administrator	49	12%
Licensed, Non-Instructional Staff	52	13%
Non-Licensed, Non-Instructional Staff	32	8%
Other	39	9%
Not Identified	3	

Measures

Positive Student Behavior Scale. The questionnaire used in this study, the Positive Student Behavior Scale (PSBS), was derived from the author's previous study of five categories of positive behaviors (Ebsen & Filter, 2013). SHUCK is an acronym representing the five behavioral categories: (a) Supporting Other Students in Following the Rules, (b) Helpful, (c) Using Manners, (d) Cooperating/Sharing, and (e) Kind/Caring. Previous research on the SHUCK behaviors took place in three phases. Phase I involved asking school teachers and staff from an elementary school and a high school in Southern

Minnesota to write down all of the student behaviors that they were likely to reward with positive referral tickets (PRTs) that were used in a token economy system. Forty-five respondents participated and a total of 226 behaviors were reported.

Phase II involved the creation of what would become known as the SHUCK categories of behaviors. The author reviewed the behaviors listed in Phase I of the study and reduced them into categories of positive behaviors. A second researcher reviewed and confirmed the results of the categorization process. Seven behavior categories were developed: (a) Helpful, (b) Kind/Caring, (c) Organized, (d) Using Manners, (e) Cooperating/Sharing, (f) On-Task, and (g) Supporting Other Students in Following the Rules. Each behavior was operationally defined and examples and non-examples were included in the definitions (see Table 1 for examples of definitions). The checklist was distributed at a PBIS training in Southern Minnesota and school teachers and staff on PBIS teams in schools from multiple school districts were instructed to indicate how likely they were to reward a student displaying each of the seven behaviors with a PRT. PRTs are given out by staff when they see positive behavior; which is contrasted with office discipline referrals, which are paper tickets that staff deliver when students engage in a behavior violation. In total, 123 teachers and school staff completed checklists. Respondents in phase II of the previous study rated each of the seven categories of positive behaviors on the following scale: (1) Definitely not give a PRT, (2) Probably not give a PRT, (3) Probably give a PRT, and (4) Definitely give a PRT. Results indicated that five of the seven behavior categories obtained mean ratings above 2.5 (the middle point) on the 4-point scale: (a) Supporting Other Students in Following the Rules, (b) Being Helpful, (c)

Using Manners, (d) Cooperating/Sharing, and (e) Kind/Caring. Organized and On-task received mean ratings below 2.5 on the 4 point scale and were thus excluded from the next phases of the study.

Phase III involved testing the reliability of a behavior observation coding system that was based on the five SHUCK behaviors that were derived from Phase I and Phase II. A 15-minute partial interval recording system was developed wherein a different student was observed every 10 seconds. Three doctoral students were trained in data collection. A total of 16 observations were conducted in two elementary classrooms in Southern Minnesota. Results indicated that although positive behaviors occurred at a low frequency, even when all five behaviors were combined (4.7% of intervals in Classroom A and 3.3% of intervals in Classroom B), the observation code displayed high levels of inter-rater reliability (98% in Classroom A and 97% in Classroom B).

The PSBS, a teacher-rating measure developed for the present study, consists of 35 items with seven specific positive behaviors under each of five SHUCK behavior categories. Behaviors included in the measure were selected by reviewing the behavior teaching matrices posted on the PBIS Technical Assistance Center website (www.pbis.org). These matrices are examples of systematically organized behavior expectations across various school settings that are used to guide the process of teaching behavior expectations in PBIS schools (see Appendix A for example teaching matrix). The matrices on the PBIS website were examples from real schools around the country and were created by staff in those schools to reflect the local behavior expectations. Therefore, they represent field-generated, valid examples of positive behaviors according to the definition of positive

behavior utilized in the present study. The author reviewed the behaviors from the matrices and matched them to the five SHUCK behavior categories. The faculty advisor for this study reviewed and validated the category assignments.

Respondents to the PSBS in the present study were asked to report the degree to which they observed each of the 35 behaviors over the past three months using the following four-point scale: (0) Never, (1) Infrequently, (2) Somewhat Frequently, or (3) Frequently. The authors chose not to include a designation of "very frequently" based on findings from a previous observational study, which indicated that the SHUCK positive behaviors were generally low-frequency behaviors (Ebsen & Filter, 2013). The survey took approximately 10 minutes to complete. Items from each SHUCK category were interspersed every five items throughout the questionnaire such that items 1, 6, 11, 16, 21, 26, and 31 were from the S (Supporting Other Students in Following the Rules) category; items 2, 7, 12, 17, 22, 27, and 32 were from the H (Helpful) category; items 3, 8, 13, 18, 23, 28, and 33 were from the U (Using Manners) category; items 4, 9, 14, 19, 24, 29, and 34 were from the C (Cooperating/Sharing) category; and items 5, 10, 15, 20, 25, 30, and 35 were from the K (Kind/Caring) category. See Appendix C for a copy of the PSBS.

Descriptive statistics for the overall PSBS scale and each of the five SHUCK subscales are represented in Table 4. An overall score on the measure was calculated for each participant. A minimum possible score on the PSBS was zero, if a participant answered each of the 35 items with a "never" response. A maximum possible score on the measure is 105, if a participant answered "frequently" to each of the 35 items. Overall measure distribution can be seen on Figure 1. The mean overall score for each participant was found

to be 70.26, with a standard deviation of 12.80. Score ranges on the PSBS were 35 to 104. Possible participant scores on the five SHUCK categories had a possible range in scores of zero to 21 with an observed range of five to 21.

Table 4

Descriptive Statistics for the PSBS Responses by SHUCK Subscale

	Overall Measure	Supporting Other Students…	Helpful	Using Manners	Cooperating/ Sharing	Kind/ Caring
N Valid	362	401	390	402	395	400
Missing	44	5	16	4	11	6
Mean	70.26	10.28	10.29	12.75	15.24	12.14
Median	69	10	10	13	15	12
Mode	61	9	9	12	14	12
Std. Deviation	12.80	2.11	2.14	2.43	2.74	2.49
Range	69	10	10	12	16	13
Minimum	35	5	5	6	5	5
Maximum	104	15	15	18	21	18

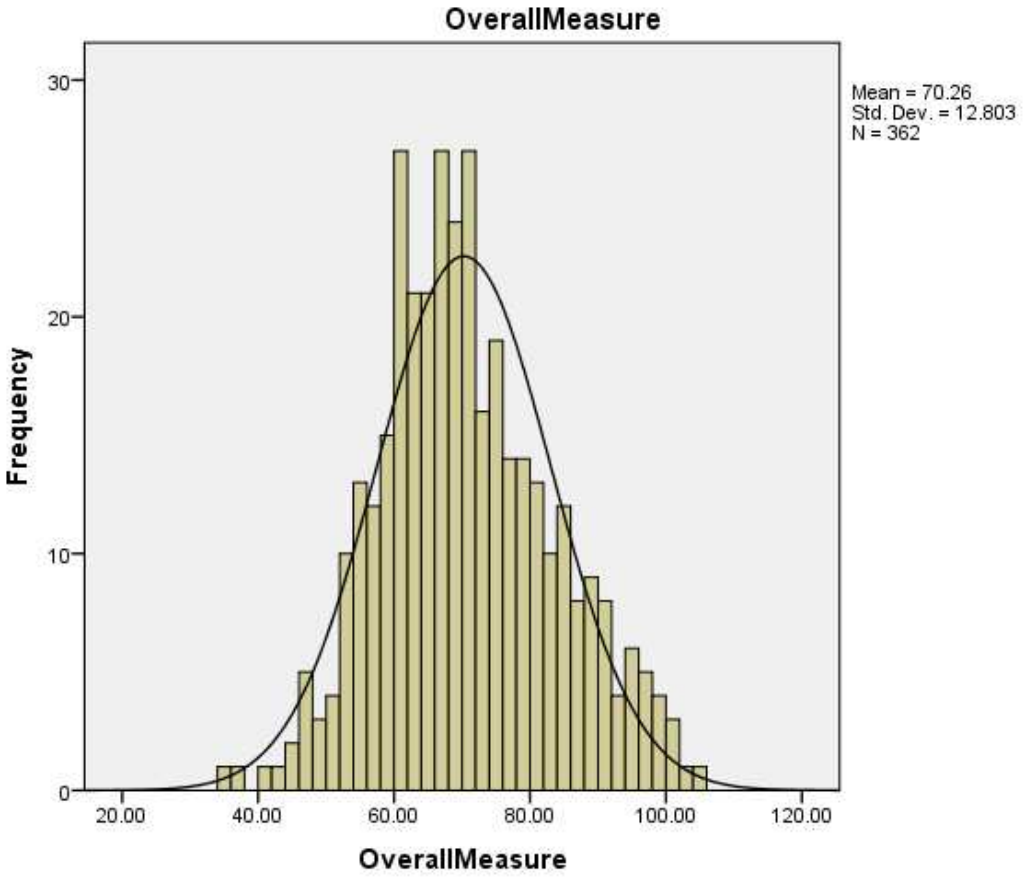

Figure 1. Overall distribution of PSBS scores

Participants from cohort 7 schools had a mean overall score of 69.6 (standard deviation of 13.4). Participants from cohort 8 schools had a mean score of 70.7, with a standard deviation of 12.4.

School-wide Evaluation Tool. The School-wide Evaluation Tool (SET) is a commonly used measure in the assessment of fidelity of implementation in a PBIS framework. Schools are given an overall summary score based on the critical elements of PBIS they have in place. The SET has demonstrated adequate psychometric properties,

with an overall internal consistency of .96 (Horner et al., 2004). Please see literature review for a comprehensive review of the SET. Data on each participating school's SET scores were requested from the Minnesota Department of Education. Data from the SET were collected in the spring of 2012, approximately 4 months after the SHUCK scale data were collected.

Procedures

The PSBS was distributed to school staff during the Minnesota Department of Education-sponsored PBIS trainings in November 2012. Respondents received a brief verbal description of the study and its purpose. A letter that contained information about the study, its purpose, and contact information for the researcher accompanied each survey. Participants were given approximately 15 minutes to complete the PSBS before responses were collected. In order to collect data on the test-retest reliability of the measure, all participants were invited to complete the scale a second time. Respondents that chose to participate provided their email addresses. Participation in both administrations was voluntary. No consent was gathered in either administration, as participants were informed that their responses would also serve as their consent for participation.

Approximately two weeks after completing the initial PSBS, the author contacted interested respondents via e-mail to invite them to participate in the re-administration of the PSBS for the purpose of test-retest analyses. Respondents were asked to complete the electronic version of the PSBS available on SurveyMonkey. The author sent a reminder via e-mail approximately one week later to respondents that had not yet responded. They

online survey was closed one week later. Therefore, all re-test responses were collected between two to four weeks after initial PSBS data collection.

Data Analysis

Data were entered and analyzed using SPSS 21 and SPSS Amos. Any data left blank by respondents were treated as a listwise deletion, where an entire record was excluded from analysis if any values were missing. Demographic information was coded using binary (gender, member of PBIS team), nominal (name of school, role in school), and scale (years of training in PBIS) levels of measurement. Responses to the 35 items PSBS were coded using a scale level of measurement, ranging from zero to three.

The first research question, "Can the findings from the present survey confirm themes of positive student behavior in schools that have been developed based on previous findings?" was examined through the use of confirmatory and exploratory factor analyses. The second question, "Can the original scale be condensed to contain fewer items, but still accurately address levels of positive behavior?" was evaluated using Cronbach's Alpha internal consistencies for each of the five scales and the overall measure. Test-retest was examined in research question number three, which asked, "Does a significant correlation exist across multiple ratings over a short period of time?" using simple correlations coefficients. The final research question asked, "Do schools with high level of PBIS implementation fidelity report higher levels of positive behavior on the newly developed measure?" To answer this, analyses of variance (ANOVAs) and linear regressions were performed.

CHAPTER 4-RESULTS

Confirmatory and Exploratory Factor Analyses

A confirmatory factor analysis was conducted to examine whether theoretically derived models were a proper model fit or if a different model fit the sample data more appropriately. In this study, the two models were theoretically-based on the author's previous research (Ebsen & Filter, 2013). The first model was a five-factor model, wherein each of the five SHUCK behavior areas represented independent latent variables, with seven factor loadings each (manifest variables). The other model is a one-factor model, wherein all 35 items loaded onto one factor of positive behavior. Conducting a confirmatory factor analysis allowed for the explicit testing of the researcher's hypothesis that the theoretical models adequately fit the data.

Data analysis was conducted using SPSS Amos. Several indices were run to evaluate the overall model fit. These included the goodness-of-fit Chi-Square statistic (X^2), the ratio of X^2 to degrees of freedom (X^2/df ratio) the root square error of approximation (RMSEA), the Bentler comparative fit index (CFI), and the Tucker Lewis index (TLI). Cut-offs points recommended by Walker (2010) were utilized in order to serve as recommended indicators for goodness-of- fit for the two models (Table 5). This was selected due to the similar sample sizes of the studies, similar content, and similarities of fit indexes used between the present study and Walker study.

Table 5

Recommended values

Fit Measure	Recommended Values
X^2	$p \geq .05$
X^2/df ratio	<2:1
RMSEA	<0.08
CFI	≥.90
TLI	≥.90

Note. X^2=chi square, df=degrees of freedom, X^2/df= ratio of x^2 to df , RMSEA= root mean square error of approximation CFI= comparative fit index, TLI=Tucker-Lewis Index

One Factor Model

Looking at Table 6, the one factor model was an overall weak fit for the data. The one factor model had X^2=1548.503 (560, p<0.001) and a X^2/df ratio of 2.765. The X^2 value exceeds the recommended value of p≥.05 The X2/df ratio was also above the recommended 2:1 ratio. In addition, the one-factor model did not meet the cut-off of ≥.90 for CFI (.826) and TLI (.804). The only recommended value that was achieved with the one factor model was with the RMSEA, where the value of .066 was less than the cut-off of ≤.08. Given the results achieved with the one factor model, it was concluded that the model did not fit the data.

Five-Factor Model

Table 6 also reveals that the five factor model was a weak fit for the data. The five-factor model had X^2=3075.649 (560, p<0.001) and a X^2/df ratio of 5.492. Again, these

findings exceeded the recommended values. Further, the five-factor model did not meet the cut-off of ≥.90 for CFI (.557) and TLI (.502). Unlike the one-factor model, the five factor model did not achieve the cut-off score for the RMSEA. The model had a value of .105, which exceeded the recommended value of <.08. The five-factor model was found to be an inadequate fit for the data.

Table 6

One Factor and Five Factor Models

Model	X^2	X^2 (***df***)	X^2/**df**	RMSEA	CFI	TLI
One-Factor	.000	1548.503 (506)	2.765	.066	.826	.804
Five-Factor	.000	3075.649 (560)	5.492	.105	.557	.502

Note. X^2=chi square, df=degrees of freedom, X^2/df= ratio of x^2 to df , RMSEA= root mean square error of approximation CFI= comparative fit index, TLI=Tucker-Lewis Index

Exploratory Factor Analysis

Since both the one factor and five factor models proved to be insufficient fits for the data, an exploratory principal component factor analysis (PCA) was performed on the 35 items with orthogonal rotation (varimax). Cases were excluded listwise. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO= .948. This value is considered superb by Field (2009) and all KMO values for individual items were >.87, which is well above the accepted value of .5 (Field, 2009). Bartlett's test of sphericity $x^2(595)= 5662.49$, $p<0.001$, indicated that correlations between items were sufficiently large for PCA.

An initial analysis was run to obtain eigenvalues for each component in the data. The analysis revealed a total of six factors with eigenvalues over the criterion of one, and together explained a total of 56.03% of the variance (as indicated on Table 7). Table 8 shows the factor loadings after rotation. The item loadings for each of the six factors were reviewed by the first author and the faculty advisor and led to the following titles for each of the six factors, based on the behaviors that loaded most heavily on the factor and the pattern of behaviors across the factor: Factor 1 is "Using Manners", Factor 2 is "Respect", Factor 3 is "Responsibility", Factor 4 is "Teamwork", Factor 5 is "Supportive", and Factor 6 is "Cooperating". The factor titles from the exploratory factor analysis results did not correspond directly to the original five SHUCK categories.

Table 7

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.61	36.03	36.03	12.61	36.03	36.03	4.24	12.13	12.13
2	1.88	5.36	41.38	1.88	5.36	41.38	3.82	10.92	23.05
3	1.54	4.41	45.79	1.54	4.41	45.79	3.10	8.85	31.90
4	1.34	3.82	49.61	1.34	3.82	49.61	3.10	8.73	40.63
5	1.15	3.28	52.89	1.15	3.28	52.89	2.88	8.23	48.86
6	1.10	3.13	56.03	1.10	3.13	56.03	2.51	7.17	56.03
7	.98	2.80	58.83						

8	.88	2.51	61.33
9	.83	2.36	63.69
10	.78	2.24	65.93
11	.76	2.16	68.09
12	.73	2.09	70.18
13	.71	2.02	72.20
14	.68	1.95	74.15
15	.63	1.81	75.96
16	.60	1.72	77.68
17	.59	1.69	79.37
18	.58	1.65	81.03
19	.55	1.57	82.59
20	.51	1.47	84.06
21	.50	1.42	85.48
22	.48	1.38	86.86
23	.46	1.31	88.17
24	.45	1.29	89.46
25	.42	1.20	90.66
26	.41	1.16	91.82
27	.40	1.14	92.95
28	.36	1.03	93.99
29	.34	.98	94.96
30	.33	.94	95.90
31	.32	.90	96.80
32	.30	.86	97.65
33	.29	.83	98.49
34	.28	.79	99.28
35	.25	.72	100.00

Extraction Method: Principal Component Analysis.

Table 8

PSBS Rotated Factor Loadings

	Rotated Factor Loadings					
Item	Using Manners	Respect	Responsibility	Teamwork	Supportive	Cooperating
3. Students use manners	**.75**	.01	.17	.08	.22	.04
4. Students cooperate with others	**.73**	.23	.14	.02	.17	.09
2. Students are helpful	**.63**	.01	.17	.19	.1	.3
8. Students are polite to school staff	**.59**	.28	.23	.01	.11	.19
5. Students say kind things to and about others	**.58**	.32	.04	.33	.14	.07
6. Students model appropriate school behavior for other students	**.57**	.31	.12	.27	.15	.08
10. Students treat others respectfully	**.55**	.52	.24	.11	.05	.14
26. Students are positive role models	**.43**	.37	.11	.06	.41	.25
15. Students include other students	.17	**.67**	.20	.14	.05	.2
14. Students take turns with others	.31	**.55**	.34	.15	.04	.23

13. Students keep their hands, feet, and objects to themselves	.27	**.52**	.43	.13	.04	-.08
20. Students use positive statements	.34	**.49**	.17	.28	.36	.094
25. Students cheer up a classmate that is feeling sad	.11	**.46**	.01	.24	.33	.36
35. Students encourage others to join their group	.14	**.46**	.1	.31	.25	.24
16. Students encourage others to play safe	.18	**.45**	.16	.44	.29	.08
19. Students show good sportsmanship	.20	**.43**	.40	.01	.35	.06
17. Students keep the hallways and restrooms neat and clean	.12	.19	**.69**	.16	.14	.12
32. Students place trash and discarded materials in the trash	.01	.06	**.63**	.08	.20	.40
18. Students use language that is respectful to all who hear it	.33	.32	**.49**	.07	.16	.22
24. Students use school equipment and facilities appropriately	.26	.26	**.44**	.06	.28	.21
7. Students clean their desks and surrounding areas	.24	.17	**.43**	.35	-.03	.07
11. Students appropriately remind others of the consequences of their behavior	.03	.20	.12	**.74**	.05	.09

1. Students remind other students to follow the rules	.32	-.09	-.03	**.65**	.01	.30
12. Students help pick things up off of the floor for safety	.18	.12	.48	**.62**	.10	
22. Students clean up messes even if they did not make them	.07	.14	.43	**.54**	.32	.07
21. Students notice when other students engage in positive behavior	.04	.36	-.04	**.53**	.38	.15
23. Students greet visitors to the building and appropriately respond to greetings	.10	.08	.25	.31	**.65**	-.08
27. Students hold open doors for others	.13	.02	.25	.19	**.60**	.24
30. Students bring items to be donated	.26	.09	-.01	-.06	**.54**	.18
29. Students effectively work with others towards a common goal	.20	.32	.15	.11	**.49**	.30
28. Students are polite to peers	.37	.37	.31	.11	**.38**	.19
31. Students report problems to teachers in order to avoid hard to selves or others	.14	.03	.20	.21	.09	**.70**
34. Students lend personal materials (e.g. pencils/scissors) to other students to use	.16	.32	.13	.08	.27	**.62**

33. Students respect the work of others	.15	.30	.34	.01	.30	**.50**
9. Students share materials with other students	.33	.34	.14	.13	.07	**.49**

Note. Bolded numbers indicate which factor an item loaded on most heavily

Visual examination of the item numbers that loaded together in the exploratory factor analysis suggested factor loadings could be explained by item sequence in the measure (i.e., items that were close together sequentially loaded onto the same factors). This prompted the unplanned investigation of a correlation between sequence of items in the PSBS (as represented by item numbers) and factor loadings (as represented by the numbered factors onto which the items loaded). Bivariate correlational analysis revealed that a significant correlation existed between the item number and factor loading $r(33)=.593$, $p<.001$. Implications of this finding are addressed in the discussion section.

Examination of Condensing the Original Survey and Accuracy of Addressing Levels of Positive Behavior

In order to address the research question regarding the condensing of the original 35 items into a shorter scale, Cronbach's Alphas ($\propto$) were calculated to determine the internal consistencies for each of the five initial scales, the six factors identified in the factor analysis in research question one, as well as the overall 35-item PSBS. In addition, Alpha if Item Deleted was also calculated for each scale and the overall measure.

Analysis of the Cronbach's alpha across scales revealed variability across constructs. The widely accepted value of .7 was used an acceptable standard for Cronbach's α. Table 9 shows that internal consistencies for the five original SHUCK scales, six factor model, and overall PSBS. Overall internal consistency for the PSBS was found to be 0.94. Alphas on the SHUCK scales ranged from .78 (Supporting Other Students in Following the Rules) to 0.82 (Cooperating Sharing). The Cooperating/Sharing subscale was regarded as having a relatively strong internal consistencies, with Cronbach's α of .82. The Supporting Other Students in Following the Rules and Kind/Caring (with Cronbach's α=.78) and Helpful and Using Manners (with Cronbach's α=.79) were found to have acceptable reliabilities.

Table 9

Internal Consistency of Scales

SHUCK Scale		Six Factor Model	
Scale Name	Cronbach's Alpha	Scale Name	Cronbach's Alpha
Supporting Other Students in Following the Rules	.78	Using Manners	.87
Helpful	.79	Respect	.84
Using Manners	.79	Responsibility	.74
Cooperating/Sharing	.82	Teamwork	.78
Kind/Caring	.78	Supportive	.70
		Cooperating	.73
Overall PSBS	.94	Overall PSBS	.94

Alphas on the factors from the six-factor model identified ranged from .70 to .87. The categories of Responsibility, Teamwork, Supportive, and Cooperating were found to have acceptable reliabilities (with α=.74, .78, .70, and .73, respectively). The Using Manners (α=.87) and Respect categories (α=.84) were identified as having strong internal consistencies.

Item-total statistics for the PSBS indicated that only item 30, "Students bring in items to be donated," would increase the Alpha for the overall scale if it were deleted (Table 10). Table 10 indicates that if item 30 were deleted, alpha for the PSBS would increase to. 945. However, this item was kept in the measure because it was considered conceptually valuable to the measure and added only .002 more to the Alpha than the next least contributing deletion items.

Table 10

Item-Total Statistics for the PSBS

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Question 1	68.3481	157.125	.406	.	.943
Question 2	67.7873	156.041	.543	.	.942
Question 3	68.0414	156.295	.524	.	.942
Question 4	67.9558	156.103	.576	.	.942
Question 5	68.3122	154.930	.575	.	.942
Question 6	68.1298	155.005	.610	.	.942
Question 7	68.3978	155.603	.473	.	.943
Question 8	67.9116	155.521	.575	.	.942

Question 9	67.9669	155.063	.570	.	.942
Question 10	68.0773	154.786	.667	.	.941
Question 11	68.7762	155.387	.445	.	.943
Question 12	68.6160	152.481	.575	.	.942
Question 13	68.2901	155.492	.540	.	.942
Question 14	68.0829	154.281	.652	.	.941
Question 15	68.1796	155.915	.571	.	.942
Question 16	68.6271	152.462	.636	.	.941
Question 17	68.4171	154.465	.535	.	.942
Question 18	68.2376	153.572	.629	.	.941
Question 19	68.2238	155.941	.532	.	.942
Question 20	68.2818	153.150	.698	.	.941
Question 21	68.3812	153.815	.529	.	.942
Question 22	68.7818	153.523	.587	.	.942
Question 23	68.6685	154.521	.490	.	.943
Question 24	68.0939	156.202	.582	.	.942
Question 25	68.1298	154.617	.572	.	.942
Question 26	68.1215	154.844	.652	.	.941
Question 27	68.3702	154.206	.518	.	.943
Question 28	68.2017	154.738	.692	.	.941
Question 29	68.2431	154.700	.606	.	.942
Question 30	68.5304	154.820	.380	.	.945
Question 31	68.0552	156.036	.461	.	.943
Question 32	68.0635	155.533	.532	.	.942
Question 33	68.1464	155.527	.596	.	.942
Question 34	68.0414	154.782	.587	.	.942
Question 35	68.4337	155.432	.574	.	.942

Analysis of Correlation Across Multiple Ratings

This research question addresses the variation in responses to items on the PSBS over time. Pearson Correlation was calculated to examine the strength of test-retest reliability. Respondents were asked to participate in a second administration of the PSBS. Participation in this phase was voluntary and recruitment occurred at the initial

administration (where participating staff provided their e-mail address to the researcher). In total, 130 respondents indicated that they would participate in the second data collection and 65 of the original participants actually completed the second administration.

Given that the test retest data were collected two to four weeks after the initial survey, a Pearson *r* Correlation value of .5 was used a standard for comparison indicating a strong correlation (Cohen, 1998; Field, 2009). Table 11 indicates that the overall survey scores on the staff's first and second reports were found to be significant, $r(43)=.67$, $p \leq 0.1$. The correlations between the five SHUCK subscale scores were also significant at $p \leq 0.1$, and ranged from .51 to .76. Slightly lower reliabilities were found on subscales within the six factor model. All reliabilities were significant at $p \leq 0.1$, and ranged from .44 to .70. Since Listwise deletions were used, the number of participants for each scale differs depending on missing items for that scale.

Table 11

Pearson (r) Correlations

SHUCK Model			**Six Factor Model**		
Scale Name	Pearson (r) Correlation	*N*	Scale Name	Pearson (r) Correlation	*N*
Supporting Other Students in Following the Rules	.71	52	Using Manners	.66	60
Helpful	.51	57	Respect	.70	60
Using Manners	.60	62	Responsibility	.45	57
Cooperating/ Sharing	.57	60	Teamwork	.60	58
Kind/Caring	.76	60	Supportive	.50	58
			Cooperating	.44	63
Overall Measure	.67	45	Overall Measure	.67	45

Analysis of Fidelity of Implementation and Levels of Positive Behavior

A mean PSBS school score was calculated by averaging the overall scores across participants from each school. Schools that had a minimum of two respondents to the PSBS and a SET score were included in the current analyses. Only 69% of the represented schools were included in the analysis because several schools had only one participant. In

addition, several of the participating schools did not have a concurrent SET score. In total, 66 schools were included in these analyses.

The mean score across the 66 schools was 70.66, with a standard deviation of 10.09. Average school scores on the measure ranged from 46 to 104. The mean school score for cohort 7 (second year of training) was 71.03, with a standard deviation of 11.23. The mean for cohort 8 schools (first year of training) was slightly lower at 70.35 with a standard deviation of 9.15.

PBIS fidelity of implementation data from each school's Schoolwide Evaluation Tool (SET) was collected from the Minnesota Department of Education. A maximum possible score on the SET is 100. The mean SET score for schools participating in this study was 85.78 (standard deviation of 11.87). SET scores ranged from 49 to 100. The average SET score for cohort 7 schools was 88.46 (SD of 10.78). Cohort 8 schools had a mean SET score of 83.51 (SD=12.41).

Two types of statistical analyses were performed to address this research question. The first analyses were linear regressions. These were done to determine whether differences in SET scores (independent variable) could help explain differences in school PSBS scores (dependent variable). Separate analyses were run for each cohort. Two analyses of variance (ANOVAs) were then run, grouping SET scores into three categories.

Regression Analyses

Cohort 8 Analysis. A linear regression analysis was conducted to determine if differences in school's SET scores could explain differences in PSBS scores. Data analysis revealed that SET scores accounted for 13.6% of the explained variability in overall mean

school scores, as seen from Table 12. In addition, Table 13 indicates SET scores were able to explain differences in PSBS scores, $F(1,41)=6.445$, $p<.05$.

Table 12

Cohort 8 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.369[a]	.136	.115	8.97853
a. Predictors: (Constant), SET				

Table 13

Cohort 8 Regression Analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	519.568	1	519.568	6.445	.015[b]
	Residual	3305.176	41	80.614		
	Total	3824.744	42			
a. Dependent Variable: MeanScore						
b. Predictors: (Constant), SET						

Cohort 7 Analysis. Similar to Cohort 8 schools, a linear regression was performed for Cohort 7 schools. However, findings were somewhat different for cohort 7 schools. As can be seen in Table 14, this model explained .3% of the variability in mean PSBS scores. Table 15 indicates that this model did not provide a significant fit $F(1,33)=0.83$, $p=.775$.

Table 14

Cohort 7 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.050[a]	.003	-.028	11.74872
a. Predictors: (Constant), SET				

Table 15

Cohort 7 Regression Analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.499	1	11.499	.083	.775[b]
	Residual	4555.072	33	138.032		
	Total	4566.571	34			
a. Dependent Variable: MeanScore						
b. Predictors: (Constant), SET						

Analyses of Variance

In order to further investigate the research question, two ANOVAs were also performed. The independent variables were school SET scores. Dependent variables were overall mean scores on the PSBS. On each ANOVA, SET scores were grouped into three different categories. This was conducted in two different ways.

Split-Group ANOVA. On the first analysis of variance, SET scores were split into three nearly equal parts, Low, Medium, and High levels of implementation (Low=25 schools, Medium=19 schools, and High=25 schools). Low implementers encompassed the

schools that had SET scores fall below 83. Medium level implementation schools included those with SET scores between 84 and 92. High levels of implementations were schools with SET scores above 93.

Figure 2 indicates that mean overall scores on the PSBS across the three levels of implementation ranged from 67.16 to 72.12. Interestingly, the lowest mean score within the three groups was in the Medium Implementers. However, there was not a statistically significant difference between groups as determined by a one-way ANOVA ($F(2,64) = 1.66$, $p = .198$).

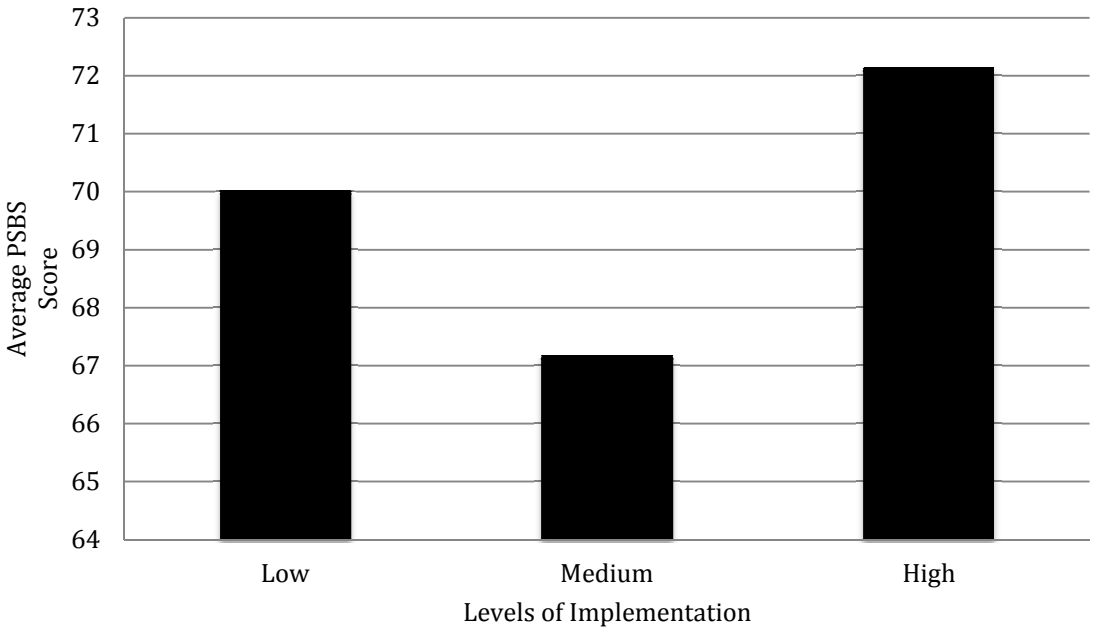

Figure 2. Average PSBS scores for low/medium/high implementation

ANOVA Using Cut-off Scores. A second ANOVA was run using cutoff scores for each grouping of SET scores. The three groupings were as follows: Schools with SET scores below 60 (Low Implementers), SET scores between 61 and 80 (Partial Implementers), and schools with SET scores between 81 and 100 (Full Implementers). These selected cutoffs were based on the recommended value of at least 80% as an indicator of effective implementation (Horner et al., 2004). Due to these cut-offs, the number of schools in each grouping was uneven. The "Low" implementers encompassed 3 schools, Partial implementers contained 13 schools, and Full Implementation had 53 schools.

Descriptive statistics across the three groups indicate a larger range in mean score than the first ANOVA. Low implementing schools had the lowest mean on the PSBS, at 60. 67, with Partial implementers having an average score of 71.08 and Full Implementers at 70.06 (as referenced on Figure 3). However, these differences in means were not significantly different. There was not a statistically significant difference between Low, Partial, and Full implementation groups as determined by one-way ANOVA ($F(2,64) = 1.749$, $p = .182$)

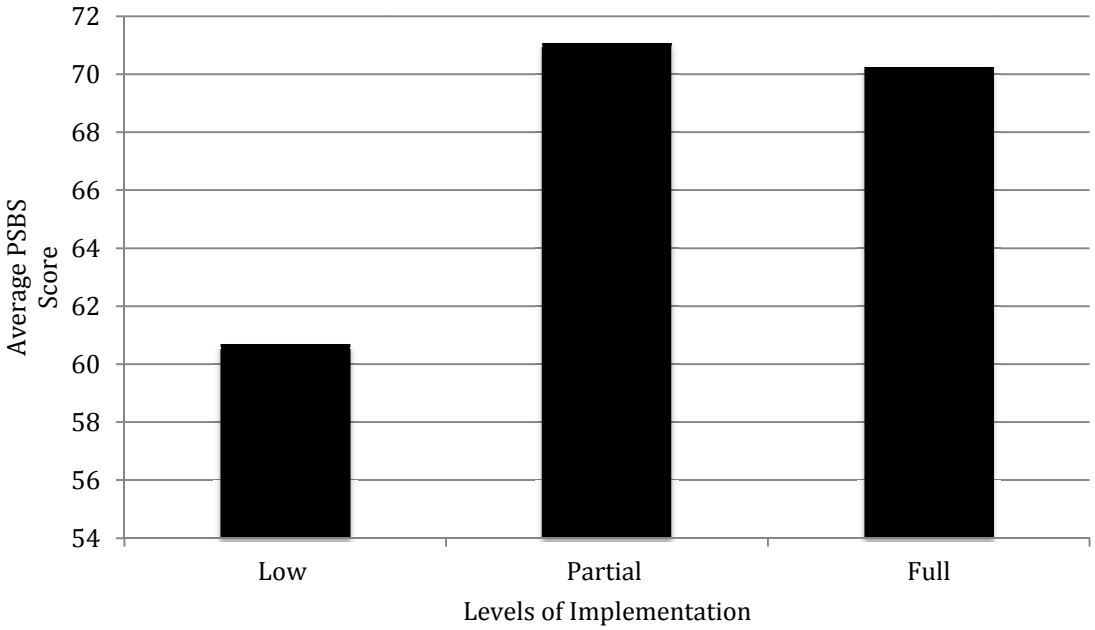

Figure 3. Average PSBS scores for low/partial/full implementation

CHAPTER 5-DISCUSSION

Discussion of Findings

The investigation of levels of positive behavior in schools indicated some significant findings in regards to psychometric properties, themes of positive behaviors, and relationship between levels of implementation and rates of positive behavior. Discussion of each analysis is presented in the following sections.

Themes of Positive Behavior

The survey used in this study, the Positive Student Behavior Scale (PSBS) was derived from the author's previous study of five categories of positive behaviors (Ebsen & Filter, 2013). The SHUCK subscales were theoretically-driven and based on three phases of research.

Confirmatory Factor Analyses were conducted for the one-factor and five-factor models of positive behaviors. Results indicated that two pre-established models of positive behavior could not be confirmed as proper fits for the survey data. Obtained fit indices revealed that neither model was sufficient.

In order to further investigate this question and obtain a better model to fit the data, an exploratory factor analysis was conducted. Results revealed that there were six latent variables to the 35-item scale. Together, these components explained 56.03% of the variance. Examination of these six themes yielded the following themes: Using Manners, Respect, Responsibility, Teamwork, Supportive, and Cooperating.

A visual inspection of the item numbers loading within each factor led the author to analyze the correlation between the item number of each question and the factor number it

loaded onto most heavily. Results indicated a statistically significant correlation. This suggests that the appearance of a six-factor structure to the PSBS could be attributed to similar responses on items physically located near each other on the PSBS. Therefore, the results of the six factor model should be interpreted with extreme caution.

Similarities in themes on the SHUCK and those of the six factor model were noted. For example, Using Manners, was a theme originally proposed by the author. However, different items were found to load on the factor across the two models. For example, items of "Students cooperate with others" and "Students are helpful" were not originally included in the Using Manners scale, but were found to fit under the category according to the PCA.

Two other themes of the six factor model, Supportive and Cooperating, were considered slight variations to the themes that were originally proposed. Supporting Other Students in Following the Rules was initially proposed as a variable to encompass student behaviors surrounding the reminding, modeling, and reinforcing of positive behaviors. However, data from the exploratory factor analysis revealed Supportive to be a theme of social desirability and personal responsibility done in order to benefit another. According to the six factor model, it encompassed a wide range of items, from "Students greet visitors to the building and appropriately respond to greetings," "Students hold open doors for others," and "Students bring in items to be donated."

The original scale of Cooperating/Sharing was a measure of collaborating, lending materials, taking turns, showing good sportsmanship, and using teamwork in goal-attainment. On the six factor model, the somewhat broader construct of Cooperating was found to represent items of moral values (e.g. "Students report problems to teachers in

order to avoid harm to themselves or others") and altruism (e.g., "Students lend personal materials to other students to use").

Overall, the original themes/scales proposed by the researcher were relatively consistent with the six factors identified in the exploratory factor analysis. Two of the original SHUCK scales were not consistent in the six factor model (Kind/Caring and Helpful). One scale, Using Manners, was consistent across both models. Two original constructs were slightly different across models (Supporting Other Students in Following the Rules became Supportive; Cooperating/Sharing became Cooperating). And three 'new' constructs were proposed in the six factor model (Teamwork, Respect, and Responsibility).

Recent literature has failed to provide a clear distinction between positive behavior and prosocial behavior (Epps et al., 2003; Hearron & Hildebrand 2006). Despite having established a relatively clear description of prosocial behavior, the construct of positive behavior has gone largely undefined. Independent of the number of factors within the PSBS, continued analysis of the data and findings leads the researcher to believe that positive behavior and prosocial behavior are not two separate entities. Rather, positive behavior is a broader construct that encompasses prosocial behavior.

Analysis of Internal Consistency

Findings from the analysis of internal consistency indicated that the Cronbach's alpha for the overall 35-item PSBS suggest relatively strong internal consistency, with α=.94. A review of literature indicates these findings to be similar to the psychometrics of existing tools used in PBIS evaluations. The widely-used School-wide Evaluation tool has been found to have a similar internal consistency to the PSBS, ranging from .85 to .96

across studies (Horner et al., 2004; Vincent et al., 2010). A similar Cronbach's alpha of .93 has been associated with the Team Implementation Checklist (Barrett et al., 2008). Saffran reported internal consistencies for the current status and action-planning indexes of the Self-Assessment Survey are also comparable with values of .85 and .96 (2006). Similar psychometrics have been associated with the School-wide Benchmarks of Quality and Implementation Phases Inventory, having alpha values of .96 and .94, respectively (Bradshaw et al., 2009; Cohen et al., 2007). It should be noted that all of these instruments measure fidelity of implementation and that outcomes measures in PBIS, as summarized in the literature review, have limited evidence of internal consistency. This is due in part to the fact that most of the PBIS outcome measures are "authentic" more-so than psychometrically-derived (e.g., office discipline referrals). The present study is unique in that it involved a psychometric investigation of the newly developed PBIS outcome measure.

Alphas for the original five SHUCK scales were found to range from .78 to .82. The Cooperating/Sharing scale exceeded the widely accepted value of .8, with an alpha of .82. Slightly lower reliabilities were found in the remaining subscales, Supporting Other Students in Following the Rules, Using Manners, Helpful, and Kind/Caring, with alphas ranging from .78 to .79.

Internal consistencies of the six themes identified in the first research question were also investigated. Cronbach's alphas for these constructs were found to range from .70 to .87. Two scales, Using Manners and Respect, exceeded the accepted .8 value with alphas of .87 and .84, respectively. Slightly lower reliability coefficients were found in the

Responsibility, Teamwork, Supportive, and Cooperating. Alphas for these scales ranged from .70 to .78.

A review of the literature also suggests that reliability results of the two models described above are consistent with subscales from existing measures of PBIS fidelity. For example, subscale reliabilities on the Self Assessment Survey ranged from .60 to .92 (Saffran, 2006). Similarly the Implementation Phases Inventory contains four subscales, with alphas ranging from .65 to .91 (Bradshaw et al., 2009).

All constructs of positive behavior across the two models of the PSBS (SHUCK and six factor model) were found to have acceptable reliability coefficients, with alphas that exceeded .7. The variability of reliabilities is likely due to the wide and general construct of positive behavior.

Analysis of Test-Retest Reliability

An analysis of test-retest reliability was completed to further investigate the psychometric properties of the PSBS. This was done by looking at the five subscales of the SHUCK, subscales of the six factor model, and the overall PSBS. Significant correlations ($p \geq 0.01$) were found in all analyses investigating reliability between the two administrations. On the SHUCK scale, coefficients ranged from .51 to .76 across the five subscales. Test-retest reliability was somewhat lower for the six-factor model, ranging from .44 to .70. Pearson (*r*) Correlation for the overall PSBS was found to be acceptable at .67. Although significant, these findings are lower than psychometrics reported in existing fidelity of implementation measures for PBIS. For example, the widely used SET has a test-retest reliability of .97 (Horner et al., 2004). Test-retest of the BoQ is reported to be .94

(Cohen et al., 2004). The Implementation Phases Inventory has a test-retest of .80 (Bradshaw et al., 2009). Test-retest reliability has not been investigated on many existing measures.

Correlation values could have been impacted by the two formats or conditions that were used in data collection, the first being a paper-pencil administrations and the second being an online survey. In addition, it is possible that some respondents' perceptions of positive behaviors may have changed between the two administrations. Since the measure relied on respondents' reports of observed behaviors within the last three months, some participants may have been paying closer attention to occurrences of positive behaviors after taking the initial measure. In turn, this may have impacted their responses on the second administration. It is also possible that levels of the observed behaviors may have changed between the two data collection periods.

Due to the length of time between administrations, the researcher believes that the likelihood of carryover effect was low. Carry over effect refers to a respondent's tendency to complete the second measure based off of one's memory of their initial responses. Since the interval between administrations was between 2 to 4 weeks, it is believed to have a minimal impact on the data.

Analysis of Fidelity and Behavior Levels

Research has indicated that increased implementation of PBIS components is associated with a significant reduction in office discipline referrals (Lassen et al., 2006). Lassen also found that fidelity of implementation was associated with increased standardized test scores, particularly in the area of math (2006). These results led the

author to investigate the relationship between fidelity of PBIS implementation and reports on the PSBS.

Results from the two linear regressions indicated that a school's SET score was able to help explain differences in the overall average score on the PSBS for cohort 8 schools (schools in their first year of training). For cohort 7 schools (schools in their second year of training), differences in SET scores across schools were not able to explain differences in average scores on the PSBS.

Although differences in average scores on the measure were found across levels of implementation (as revealed by two ANOVAs) these differences were not found to be significant. In other words, analyses were unable to establish that higher levels of fidelity were consistently associated with higher levels of positive behavior. This was especially true when PBIS fidelity data were reduced to a triadic split of low, mid, and high for ANOVA analyses.

Implications

Findings have several implications for PBIS outcomes and the construct of positive behavior. First, findings extend the research on the broad and rather ambiguous concept of positive behavior. Analyses suggest that positive behavior is not a single construct, but rather contains several constructs. Further, positive behavior is proposed to encompass prosocial behaviors.

Second, the results add to the research on reliable measures that can be used for evaluation of outcomes associated with PBIS. A wide range of fidelity measures have proven to be psychometrically sound. However, no validated measures of positive behavior

have been noted in PBIS outcomes literature. The current study suggests that the PSBS yielded adequate internal consistency and test-retest reliability.

Third, measures of differences in fidelity were able to explain differences in school's overall PSBS score in schools that were in their first year of PBIS training, even though the findings were not significant for schools in their second year of PBIS training. This suggests that PBIS implementation may impact positive behavior outcomes but that more research is necessary. It is possible, then, that adding the PSBS to the regular evaluation of PBIS would allow for a better understanding of outcomes as well as the analysis of convergent validity across outcome variables.

Theoretical Model vs. Statistically-Derived Model

One of the interesting issues to sort out in regards to the PSBS is the underlying factor structure of the measure. Some support was found for both the theoretical, five-factor SCHUCK model and the six-factor model that was derived from the exploratory factor analysis. The six factor model was identified in an exploratory factor analysis after a confirmatory factor analysis indicated the SHUCK was not a good fit for the data. However, it was noted that the sequencing of items in the PSBS was significantly correlated with the factor loadings in the six-factor model, drawing into question the validity of the factor structure in the six-factor model. The original SHUCK scale had stronger test-retest reliability than the six factor model. The two scales were found to have relatively similar internal consistencies. These findings make it difficult to decipher which model best represents the PSBS. This is an issue that needs to be addressed in future research. It

should be noted, however, that all 35 items were found to contribute to the reliability of the PSBS.

Acknowledgement of Limitations

Although this study was important in the preliminary examination of positive behaviors in schools, it has several limitations that must be acknowledged. First, only schools in metropolitan and southern regions of Minnesota were represented. Further, data were only obtained from two cohorts. In addition, many SET scores for participating schools were not available. Given these factors, the generalization and application of the findings are somewhat limited.

The frequency of positive behaviors was assessed based on reports provided by school staff. Although these reports were based on their recollection of behavioral observations over the past three months, there is a degree of subjectivity in the nature of these reports.

Regarding data collection, one limitation of the study is the two formats that were used in data collection. For the initial administration, participants completed a paper-pencil version of the survey. An online administration was used for the second administration. This change in formats affects the standardization of the measure. Another limitation relating to test-retest reliability is the chance of ongoing changes (e.g. interventions) that may have occurred between the two administrations. Since student behavior is not static, there is no way to control for these changes so this explanation cannot be ruled out.

Listwise deletions were used in all analyses. Although this is a more conservative approach and likely leads to more accurate data, it leads to the rapid loss of cases that are available for analysis. A large amount of attrition was also noted in test-retest analysis. Of the 406 participants, only 130 volunteered to participate in the second administration. Of the 130, only 65 actually participated.

On the first research question, a factor analysis was performed. However, non-independence of rating is an assumption of factor analyses that was violated because multiple raters from the same school may have been rating behavior by some of the same students.

Finally, in regards to the relationship between fidelity of PBIS implementation and PSBS scores, it should be noted that the cross-sectional design of the current study precluded the comparison of pre-PBIS-implementation PSBS scores to PSBS scores obtained when scores attain fidelity of implementation. Pre-existing differences between schools in the study may have impacted these analyses. It is possible that PSBS scores would improve within schools as their fidelity of PBIS implementation increases.

Recommendations for Future Research

Results of the current study lead the way to several recommendations for future research. Primarily, the underlying factor structure of the PSBS needs to be further explored. Future research should investigate the two models associated with positive behavior that have been identified in the current study. Analyses should be conducted, further evaluating the strengths and weakness of each model and determination should be made as to which model best represents the data and concept of positive behavior. It will

be important to vary the order of items in the PSBS when conducting this research in order to minimize the impact of item sequence in responding. Further validation of the PSBS should also occur, particularly in the area of construct validity. Inter-rater reliability between school staff members should also be explored. Another important direction for future research would be the development and validation of a self-reported student version of the PSBS. Finally, future research should also investigate the impact of PBIS implementation on positive behavior as measured by the PSBS. Ideal designs for this line of research would be randomized waitlist control designs and longitudinal designs.

Conclusion

PBIS is a universal, school-wide framework that is designed to increase positive and appropriate student behaviors while decreasing rates of negative behaviors. Outcome studies of PBIS have historically focused on office discipline referrals, academic achievement, drop out rates, suspensions rates, and retention rates. The purpose of this study was to create and evaluate an additional outcome measure for PBIS that addresses rates of positive behavior in schools.

While acknowledging the limitations of the study, overall results were promising. Findings suggest that positive behavior is a construct that can be reliably measured in schools using the newly-developed PSBS. Future evaluations of PBIS that incorporate the PSBS could expand our understanding of how PBIS impacts students and schools.

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APPENDIX A

Example Teaching Matrix

Successful students at Harpie B. Elementary School are …

	Respectful	Responsible	Safe
Arrival/ Dismissal	• Greet adults and students each day • Use 0 inch voice when entering and leaving the building. • Say goodbye to adults and students each day	• Line up when the first bell rings. • Have all school items ready.	• Inform an adult if there is a problem. • Stay within the lines • Walk to and from classroom.
Courtyard/ Recess	• Follow directions. • Use kind words. • Take turns.	• Freeze when you hear 3 whistles • Walk from freeze to get into line. • Remain in chosen play area. • Return equipment to grade level bag.	• Inform an adult if there is a problem. • Keep your hands and feet to yourself. • Look before throwing/ kicking a ball. • Throw wall balls at only the wall.
Cafeteria	• Say hello, goodbye, please and thank you. • Use 2 inch voice	• Stay in single line to the right to enter the cafeteria. • Have your lunch card ready • Clean your area. • When your table is called, line up at the door in a boys' line and girls' line.	• Inform an adult if there is a problem. • Stay in your assigned seat.
Hallway/ Stairs	• Use 0 inch voice	• Have a pass at all times. • Keep your hands and feet to yourself. • Walk in two straight lines (boys and girls) with your teacher.	• Walk to the right. • Walk one step at a time. • Look straight ahead. • Stop at landings and hallway intersections. • Stay with your class.

APPENDIX B

Consent Form

Consent to Participate in Survey

You have been invited to participate in a research survey being conducted by Sara Ebsen, M.S., and Kevin Filter, Ph.D., from Minnesota State University, Mankato. This survey deals with the frequency with which students in schools demonstrate positive behaviors. This survey is entitled the School-wide Positive Behavior Survey (SPBS). If you choose to participate, then all of your information will be kept private and will only be viewed by authorized research staff members. The survey includes 35 questions about student behavior along with several demographic questions about you and your position in the school. The survey takes approximately 10 minutes to complete.

By completing this questionnaire, you attest that you understand that you can contact Dr. Kevin Filter at kevin.filter@mnsu.edu and Sara Ebsen at sara.ebsen@mnsu.edu regarding any concerns you have with the project. You also understand that you also may contact the Minnesota State University, Mankato Institutional Review Board Administrator, Dr. Barry Ries, at 389-2321 or barry.ries@mnsu.edu with any questions about research with human participants at Minnesota State University, Mankato.

By completing this questionnaire, you agree to participate in this research and attest to the fact that you are at least 18 years of age. Also, you are aware that there are no direct benefits to you as a result of participation in this research. You agree that you understand that participation in this project is voluntary and you have the right to stop at any time. Your decision whether or not to participant will not affect your relationship with Minnesota State University, Mankato.

Finally, by completing a survey, you attest that you understand that none of your answers will be released and no names will be recorded. You understand that the risks of participating in this study are minimal, but could include embarrassment from having peers see your responses. You understand that participating in this study will help assess changes in positive behavior levels as an outcome of Positive Behavior Supports (PBS) implementation. Finally, you understand that your participation in the study ends with the collection of the surveys (unless you choose to participate in test-retest analysis, in which case your participation will end after the second administration of the survey in approximately two weeks). If you choose to participate in the test-retest portion of the study by including your email address at the end of the survey, then you will receive an email from us in approximately two weeks inviting you to complete an on-line version of the same survey that you completed today.

MSU IRB LOG# 369237-1

APPENDIX C

Positive Student Behavior Scale

Positive Student Behavior Scale

Demographics

1. Your school's name_____

2. Your role in the school (Please Circle one):

*General Ed Teacher *Special Ed Teacher *Administrator

*Licensed, Non-Instructional Staff *Non-Licensed, Non-Instructional Staff

Other (please describe)_____

3. Grade levels of school (Circle all that apply):

Pre-K K 1 2 3 4 5 6 7 8 9 10 11 12

4. Gender (Please circle one): Male Female

Positive Student Behavior Scale

Given the opportunity to demonstrate these behaviors, please indicate how often *OVER THE PAST THREE MONTHS* have you observed students demonstrating these behaviors by placing a an "X" mark over the appropriate score of 0, 1, 2, or 3, where 0 = Never and 3 = Frequently.

	0 Never	1 In-frequently	2 Somewhat Frequently	3 Frequently
1 **Students remind other students to follow the rules**	0	1	2	3
2 **Students are helpful**	0	1	2	3
3 **Students use manners**	0	1	2	3
4 **Students cooperate with others**	0	1	2	3
5 **Students say kind things to and about others**	0	1	2	3
6 **Students model appropriate school behavior for other students**	0	1	2	3
7 **Students clean their desks and surrounding areas**	0	1	2	3
8 **Students are polite to school staff**	0	1	2	3
9 **Students share materials with other students**	0	1	2	3
10 **Students treat others respectfully**	0	1	2	3
11 **Students appropriately remind others of the consequences of their behavior**	0	1	2	3
12 **Students help pick things up off of the floor for safety**	0	1	2	3

13 **Students keep their hands, feet, and objects to themselves**	0	1	2	3
14 **Students take turns with others**	0	1	2	3
15 **Students include other students**	0	1	2	3
16 **Students encourage others to play safe**	0	1	2	3
17 **Students keep the hallways and restrooms neat and clean**	0	1	2	3
18 **Students use language that is respectful to all who hear it**	0	1	2	3
19 **Students show good sportsmanship**	0	1	2	3
20 **Students use positive statements**	0	1	2	3
21 **Students notice when other students engage in positive behavior**	0	1	2	3
22 **Students clean up messes even if they did not make it**	0	1	2	3
23 **Students greet visitors to the building and appropriately respond to greetings**	0	1	2	3
24 **Students use school equipment and facilities appropriately**	0	1	2	3
25 **Students cheer up a classmate that is feeling sad**	0	1	2	3
26 **Students are positive role models**	0	1	2	3

27 **Students hold open doors for others**	0	1	2	3
28 **Students are polite to peers**	0	1	2	3
29 **Students effectively work with others towards a common goal**	0	1	2	3
30 **Students bring items to be donated**	0	1	2	3
31 **Students report problems to teachers in order to avoid harm to selves or others**	0	1	2	3
32 **Students place trash and discarded materials in the trash can**	0	1	2	3
33 **Students respect the work of others**	0	1	2	3
34 **Students lend personal materials (e.g. pencils/scissors) to other students to use**	0	1	2	3
35 **Students encourage others to join their group**	0	1	2	3

In order to assess the reliability of the scale, we would like to invite you to retake this survey in approximately one month. If you are interested please leave your email address below.

_____

APPENDIX D

IRB Approval Letter

September 10, 2012

Dear Kevin Filter:

Re: IRB Proposal entitled "[369237-1] Development of the School-wide Positive Behavior Survey (SPBS)" Review Level: Level I

Your IRB Proposal has been approved as of September 10, 2012. On behalf of the Minnesota State University, I wish you success with your study. Remember that you must seek approval for any changes in your study, its design, funding source, consent process, or any part of the study that may affect participants in the study. Should any of the participants in your study suffer a research-related injury or other harmful outcome, you are required to report them to the IRB as soon as possible.

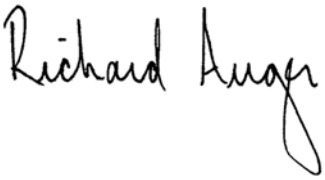
The approval of your study is for one calendar year less a day from the approval date. When you complete your data collection or should you discontinue your study, you must notify the IRB. Please include your log number with any correspondence with the IRB.

This approval is considered final when the full IRB approves the monthly decisions and active log. The IRB reserves the right to review each study as part of its continuing review process. Continuing reviews are usually scheduled. However, under some conditions the IRB may choose not to announce a continuing review. If you have any questions, feel free to contact me at irb@mnsu.edu or 507-389-5102.

Cordially,

Mary Hadley, Ph.D. IRB Coordinator

Sarah Sifers, Ph.D. IRB Co-Chair



Richard Auger, Ph.D. IRB Co-Chair

This letter has been electronically signed in accordance with all applicable regulations, and a copy is retained within Minnesota State University's records.

APPENDIX E

School-wide Evaluation Tool

School-wide Evaluation Tool (SET) Version 2.1

Data Collection Protocol

- ✓ Conducted annually.
- ✓ Conducted before school-wide positive behavior support interventions begin.
- ✓ Conducted 6-12 weeks after school-wide positive behavior support interventions are implemented.

School-wide Evaluation Tool (SET)

Overview

Purpose of the SET

The School-wide Evaluation Tool (SET) is designed to assess and evaluate the critical features of school-wide effective behavior support across each academic school year**.** The SET results are used to:

1. assess features that are in place,
2. determine annual goals for school-wide effective behavior support,
3. evaluate on-going efforts toward school-wide behavior support,
4. design and revise procedures as needed, and
5. compare efforts toward school-wide effective behavior support from year to year.

Information necessary for this assessment tool is gathered through multiple sources including review of permanent products, observations, and staff (minimum of 10) and student (minimum of 15) interviews or surveys. There are multiple steps for gathering all of the necessary information. The first step is to identify someone at the school as the contact person. This person will be asked to collect each of the available products listed below and to identify a time for the SET data collector to preview the products and set up observations and interview/survey opportunities. Once the process for collecting the necessary data is established, reviewing the data and scoring the SET averages takes two to three hours.

Products to Collect

1. _____ Discipline handbook
2. _____ School improvement plan goals
3. _____ Annual Action Plan for meeting school-wide behavior support goals
4. _____ Social skills instructional materials/ implementation time line
5. _____ Behavioral incident summaries or reports (e.g., office referrals, suspensions, expulsions)
6. _____ Office discipline referral form(s)
7. _____ Other related information

Using SET Results

The results of the SET will provide schools with a measure of the proportion of features that are 1) not targeted or started, 2) in the planning phase, and 3) in the implementation/ maintenance phases of development toward a systems approach to school-wide effective behavior support. The SET is designed to provide trend lines of improvement and sustainability over time.

Educational and Community Supports
University of Oregon
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School-wide Evaluation Tool (SET)

Implementation Guide

School _____ **Date** _____

District _____ **State** _____

Step 1: Make Initial Contact

A. Identify school contact person & give overview of SET page with the list of products needed.
B. Ask when they may be able to have the products gathered. Approximate date: _____
C. Get names, phone #'s, email address & record below.

Name_____ Phone_____

Email _____

Products to Collect

1. _____ Discipline handbook
2. _____ School improvement plan goals
3. _____ Annual Action Plan for meeting school-wide behavior support goals
4. _____ Social skills instructional materials/ implementation time line
5. _____ Behavioral incident summaries or reports (e.g., office referrals, suspensions, expulsions)
6. _____ Office discipline referral form(s)
7. _____ Other related information

Step 2: Confirm the Date to Conduct the SET

A. Confirm meeting date with the contact person for conducting an administrator interview, taking a tour of the school while conducting student & staff interviews, & for reviewing the products.
Meeting date & time: _____

Step 3: Conduct the SET

A. Conduct administrator interview.
B. Tour school to conduct observations of posted school rules & randomly selected staff (minimum of 10) and student (minimum of 15) interviews.
C. Review products & score SET.

Step 4: Summarize and Report the Results

A. Summarize surveys & complete SET scoring.
B. Update school graph.
C. Meet with team to review results.
Meeting date & time: _____

Educational and Community Supports
University of Oregon
Revised 06-29-05 NKS

School-wide Evaluation Tool
(SET)
Scoring Guide

School _____ **Date** _____

District _____ **State** _____

Pre _____ **Post** _____ **SET data collector** _____

Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
A. Expectations Defined	1. Is there documentation that staff has agreed to 5 or fewer positively stated school rules/ behavioral expectations? (0=no; 1= too many/negatively focused; 2 = yes)	Discipline handbook, Instructional materials Other _____ **P**	
	2. Are the agreed upon rules & expectations publicly posted in 8 of 10 locations? (See interview & observation form for selection of locations). (0= 0-4; 1= 5-7; 2= 8-10)	Wall posters Other _____ **O**	
B. Behavioral Expectations Taught	1. Is there a documented system for teaching behavioral expectations to students on an annual basis? (0= no; 1 = states that teaching will occur; 2= yes)	Lesson plan books, Instructional materials Other _____ **P**	
	2. Do 90% of the staff asked state that teaching of behavioral expectations to students has occurred this year? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	3. Do 90% of team members asked state that the school-wide program has been taught/reviewed with staff on an annual basis? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
	4. Can at least 70% of 15 or more students state 67% of the school rules? (0= 0-50%; 1= 51-69%; 2= 70-100%)	Interviews Other _____ **I**	
	5. Can 90% or more of the staff asked list 67% of the school rules? (0= 0-50%; 1= 51-89%; 2=90%-100%)	Interviews Other _____ **I**	
C. On-going System for Rewarding Behavioral Expectations	1. Is there a documented system for rewarding student behavior? (0= no; 1= states to acknowledge, but not how; 2= yes)	Instructional materials, Lesson Plans, Interviews Other _____ **P**	
	2. Do 50% or more students asked indicate they have received a reward (other than verbal praise) for expected behaviors over the past two months? (0= 0-25%; 1= 26-49%; 2= 50-100%)	Interviews Other _____ **I**	
	3. Do 90% of staff asked indicate they have delivered a reward (other than verbal praise) to students for expected behavior over the past two months? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
D. System for Responding to Behavioral Violations	1. Is there a documented system for dealing with and reporting specific behavioral violations? (0= no; 1= states to document; but not how; 2 = yes)	Discipline handbook, Instructional materials Other _____ **P**	
	2. Do 90% of staff asked agree with administration on what problems are office-managed and what problems are classroom–managed? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	3. Is the documented crisis plan for responding to extreme dangerous situations readily available in 6 of 7 locations? (0= 0-3; 1= 4-5; 2= 6-7)	Walls Other _____ **O**	
	4. Do 90% of staff asked agree with administration on the procedure for handling extreme emergencies (stranger in building with a weapon)? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	

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Feature	Evaluation Question	Data Source (circle sources used) P= product; I= interview; O= observation	Score: 0-2
E. Monitoring & Decision-Making	1. Does the discipline referral form list (a) student/grade, (b) date, (c) time, (d) referring staff, (e) problem behavior, (f) location, (g) persons involved, (h) probable motivation, & (i) administrative decision? (0=0-3 items; 1= 4-6 items; 2= 7-9 items)	Referral form (circle items present on the referral form) **P**	
	2. Can the administrator clearly define a system for collecting & summarizing discipline referrals (computer software, data entry time)? (0=no; 1= referrals are collected; 2= yes)	Interview Other _____ **I**	
	3. Does the administrator report that the team provides discipline data summary reports to the staff at least three times/year? (0= no; 1= 1-2 times/yr.; 2= 3 or more times/yr)	Interview Other _____ **I**	
	4. Do 90% of team members asked report that discipline data is used for making decisions in designing, implementing, and revising school-wide effective behavior support efforts? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
F. Management	1. Does the school improvement plan list improving behavior support systems as one of the top 3 school improvement plan goals? (0= no; 1= 4th or lower priority; 2 = 1st- 3rd priority)	School Improvement Plan, **P** Interview Other _____ **I**	
	2. Can 90% of staff asked report that there is a school-wide team established to address behavior support systems in the school? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	3. Does the administrator report that team membership includes representation of all staff? (0= no; 2= yes)	Interview Other _____ **I**	
	4. Can 90% of team members asked identify the team leader? (0= 0-50%; 1= 51-89%; 2= 90-100%)	Interviews Other _____ **I**	
	5. Is the administrator an active member of the school-wide behavior support team? (0= no; 1= yes, but not consistently; 2 = yes)	Interview Other _____ **I**	
	6. Does the administrator report that team meetings occur at least monthly? (0=no team meeting; 1=less often than monthly; 2= at least monthly)	Interview Other _____ **I**	
	7. Does the administrator report that the team reports progress to the staff at least four times per year? (0=no; 1= less than 4 times per year; 2= yes)	Interview Other _____ **I**	
	8. Does the team have an action plan with specific goals that is less than one year old? (0=no; 2=yes)	Annual Plan, calendar Other _____ **P**	
G. District-Level Support	1. Does the school budget contain an allocated amount of money for building and maintaining school-wide behavioral support? (0= no; 2= yes)	Interview Other _____ **I**	
	2. Can the administrator identify an out-of-school liaison in the district or state? (0= no; 2=yes)	Interview Other _____ **I**	

Summary Scores:				
A = /4	B = /10	C = /6	D = /8	E = /8
F = /16	G = /4	Mean = /7		

Administrator Interview Guide

Let's talk about your discipline system

1) Do you collect and summarize office discipline referral information? Yes No If no, skip to #4.
2) What system do you use for collecting and summarizing office discipline referrals? (E2)
   a) What data do you collect? _____
   b) Who collects and enters the data? _____
3) What do you do with the office discipline referral information? (E3)
   a) Who looks at the data? _____
   b) How often do you share it with other staff? _____
4) What type of problems do you expect teachers to refer to the office rather than handling in the classroom/ specific setting? (D2)

5) What is the procedure for handling extreme emergencies in the building (i.e. stranger with a gun)? (D4)

Let's talk about your school rules or motto

6) Do you have school rules or a motto? Yes No If no, skip to # 10.
7) How many are there? _____
8) What are the rules/motto? (B4, B5)

9) What are they called? (B4, B5)

10) Do you acknowledge students for doing well socially? Yes No If no, skip to # 12.

11) What are the social acknowledgements/ activities/ routines called (student of month, positive referral, letter home, stickers, high 5's)? (C2, C3)

Do you have a team that addresses school-wide discipline? If no, skip to # 19

12) Has the team taught/reviewed the school-wide program with staff this year? (B3) Yes No
13) Is your school-wide team representative of your school staff? (F3) Yes No
14) Are you on the team? (F5) Yes No
15) How often does the team meet? (F6) _____
16) Do you attend team meetings consistently? (F5) Yes No
17) Who is your team leader/facilitator? (F4) _____
18) Does the team provide updates to faculty on activities & data summaries? (E3, F7) Yes No
    If yes, how often? _____
19) Do you have an out-of-school liaison in the state or district to support you on positive behavior support systems development? (G2) Yes No
    If yes, who? _____
20) What are your top 3 school improvement goals? (F1)

21) Does the school budget contain an allocated amount of money for building and maintaining school-wide behavioral support? (G1) Yes No

Additional Interviews

In addition to the administrator interview questions there are questions for Behavior Support Team members, staff and students. ***Interviews can be completed during the school tour.*** Randomly select students and staff as you walk through the school. Use this page as a reference for all other interview questions. Use the interview and observation form to record student, staff, and team member responses.

Staff Interview Questions
Interview a minimum of 10 staff

1) What are the _____ (school rules, high 5's, 3 bee's)? (B5)
   (Define what the acronym means)

2) Have you taught the school rules/behavioral expectations this year? (B2)

3) Have you given out any _____ since _____? (C3)
   (rewards for appropriate behavior) (2 months ago)

4) What types of student problems do you or would you refer to the office? (D2)

5) What is the procedure for dealing with a stranger with a gun? (D4)

6) Is there a school-wide team that addresses behavioral support in your building?

7) Are you on the team?

Team Member Interview Questions

1) Does your team use discipline data to make decisions? (E4)

2) Has your team taught/reviewed the school-wide program with staff this year? (B3)

3) Who is the team leader/facilitator? (F4)

Student interview Questions
Interview a minimum of 15 students

1) What are the _____ (school rules, high 5's, 3 bee's)? (B4)
   (Define what the acronym means.)

2) Have you received a _____ since _____? (C2)
   (reward for appropriate behavior) (2 months ago)

Interview and Observation Form

	Staff questions (Interview a minimum of 10 staff members)							Team member questions			Student questions	
	What are the school rules? Record the # of rules known.	*Have you taught the school rules/ behave. exp. to students this year?*	*Have you given out any _____ since _____?* (2 mos.)	*What types of student problems do you or would you refer to the office?*	*What is the procedure for dealing with a stranger with a gun?*	*Is there a team in your school to address school-wide behavior support systems?*	*Are you on the team? If yes, ask team questions*	*Does your team use discipline data to make decisions?*	*Has your team taught/ reviewed SW program w/staff this year?*	*Who is the team leader/ facilitator?*	*What are the (school rules)?* Record the # of rules known	*Have you received a _____ since _____?*
1		Y N	Y N			Y N	Y N	Y N	Y N		1	Y N
2		Y N	Y N			Y N	Y N	Y N	Y N		2	Y N
3		Y N	Y N			Y N	Y N	Y N	Y N		3	Y N
4		Y N	Y N			Y N	Y N	Y N	Y N		4	Y N
5		Y N	Y N			Y N	Y N	Y N	Y N		5	Y N
6		Y N	Y N			Y N	Y N	Y N	Y N		6	Y N
7		Y N	Y N			Y N	Y N	Y N	Y N		7	Y N
8		Y N	Y N			Y N	Y N	Y N	Y N		8	Y N
9		Y N	Y N			Y N	Y N	Y N	Y N		9	Y N
10		Y N	Y N			Y N	Y N	Y N	Y N		10	Y N
11		Y N	Y N			Y N	Y N	Y N	Y N		11	Y N
12		Y N	Y N			Y N	Y N	Y N	Y N		12	Y N
13		Y N	Y N			Y N	Y N	Y N	Y N		13	Y N
14		Y N	Y N			Y N	Y N	Y N	Y N		14	Y N
15		Y N	Y N			Y N	Y N	Y N	Y N		15	Y N
Total											Total	

Location	Front hall/ office	Class 1	Class 2	Class 3	Cafeteria	Library	Other setting (gym, lab)	Hall 1	Hall 2	Hall 3
Are rules & expectations posted?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N	Y N
Is the documented crisis plan readily available?	Y N	Y N	Y N	Y N	Y N	Y N	Y N	*X*	X	X

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